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Strategies for Promoting Lifestyles in Families and Communities

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Abstract

Lifestyles include everything individuals and families do. These include the food, clothing, goods and services they consume, even their patterns of interaction, and so on. Lifestyles are part of each individual's identity and a major concern for health and wellbeing. This paper focuses on the concept of lifestyle, changing lifestyles, and sustainable lifestyles. It also reviews the strategies for achieving sustainable lifestyles. The vital role of government in promoting sustainable lifestyles among individuals, families and communities is also explored.

Key words: Lifestyles, family, change, sustainable, strategies, health.

Introduction

Individuals and families have needs. Such needs include: feeding, clothing housing and good health among others. In order to meet these needs, people develop lifestyles. According to Jackson (2008) lifestyles can be seen as "social conversations", in which people differentiate themselves from other people, signal their social position and psychological aspirations. Since many of the signals are mediated by goods, lifestyles are closely linked to resource flows in the society. Lifestyles have been formed for centuries by civilization and are driven by economic forces, technological progress, political settings, environmental issues, sociological and cultural contexts and psychological determinants. Lifestyles define and differentiate people (Rowley *et al* (2000). Lifestyles are the different ways people live their lives. These include these things they do, with whom they do the thing, as well as where, how and what they use to do their things it. Lifestyles are part of each person's identity. Thus people express their social position, political preferences and psychological aspirations to others through lifestyles. Lifestyle will usually reflect an individual's culture and socio-economic conditions. These range from physical and material needs (the state of local environment, sufficient food, clothing and shelter), through to social and psychological needs (including strength of relationships, depth of social interactions, level of education, sense of control over lives, etc. (Anand *et al* 2007). The lifestyle of an individual's is a product of the families and communities they come from. The lifestyles may actually not be by choice but as a result of background. Hedlund-de Witt (2012) noted that framing lifestyle as a function of choice, inadvertently discriminates against individuals whose choices are limited. For example low socio-economic groups have an increased risk of becoming obese for several reasons ranging from the quality of food they can afford to the type of environment they live in (Jackson 2008). In many urban cities all over the globe the type of lifestyle have resulted in increased energy and resource intensity of meeting needs through material consumption. This can be seem in the rising number of cars on the roads, the growing frequency and distance of leisure and business trips, the escalating ownerships of household appliances and the increasing size of housing.

This paper focuses on:

- Changing lifestyles
- Sustainable lifestyles
- Strategies for achieving sustainable lifestyles

Changing Lifestyles

Rapid changes in lifestyles that have occurred with industrialization, urbanization, economic development and market globalization, have accelerated over the past decade. This, according to Goran and Whitehead (2007) is having a significant impact on the health and nutritional status of populations, particularly in developing countries like Nigeria. Although quality of life has improved, food availability has expanded and become more diversified, and access to services has increased, there have also been significant negative consequences in terms of inappropriate dietary patterns, decreased physical activities, increased tobacco use, and a corresponding increase in diet-related chronic diseases, especially among poor people. Today, changes in the world food economy are reflected in shifting dietary patterns. For example, Lakin and Littledyke (2008) stated that there is now increased consumption of energy-dense diets high in fat, particularly saturated fat, and low in unrefined carbohydrates. These patterns are combined with a decline in energy expenditure that is associated with a sedentary lifestyle motorized transport, labour-saving devices in the home, the phasing out of physically demanding manual tasks in the workplace, and leisure time that is preponderantly devoted to physically undemanding pastimes.

Based on all these, the world today is facing complex and interlinked development and lifestyle challenges. The world is interconnected. Lifestyles are influenced by the desires of people in other countries, foreign and domestic government policies, etc. Today climatic conditions in different parts of the world impact on the food people eat, the prices they pay, and the cultural movements they are swept along by. The recent global financial crisis demonstrates just how quickly the effects of events in one part of the world can spread to other parts.

Lifestyles can be good or bad depending on the effect such lifestyles have on individuals and the environment. For instance, obesity according to Jackson (2008) is rooted primarily in lifestyle. Refined foods, snacking, sugary drinks, meals away from home, increased consumption of saturated fats and exaggerated portion sizes, combine with alongside motorized transportation and increasingly sedentary work to promote obesity. Hence, obesity reflects an unhealthy lifestyle. Other related health challenges are diabetes mellitus, cardiovascular disease (CVD), hyperextension and stroke, and some types of cancer. These according to Kranzler, *et al.* (2013) are becoming increasingly significant causes of disability and premature death in both developing and developed countries. Timmerman (1999) opined that because these lifestyle diseases are the primary causes of death, their prevention requires long-term lifestyle changes which oftentimes are quite difficult for the vast majority of individuals. For example, Timmerman (1999) reported that efforts to lose weight are generally unsuccessful, as 95 percent or more of those entering weight loss programs return to their starting weight within five years. High relapse rates are also found for individuals initiating exercise programs. Fifty percent (50%) of those who start exercising drop out within six months. Lifestyle change is therefore not very easy. Researchers such as Anand *et al.* (2007), Rowley, (2000) and Jackson (2008), have found self monitoring, goal setting, manipulation of environmental cues, and reinforcements or incentives to be helpful in facilitating lifestyle change.

Sustainable Lifestyles

***Concept of Sustainable Lifestyles*:** Sustainable lifestyles therefore are patterns of action and consumption, used by people to affiliate and differentiate themselves from others. Such lifestyles meet basic needs, provide a better quality of life, minimize the use of natural resources and emissions of waste and pollutants over the lifecycle, and do not jeopardize the needs of future generations (United Nations Conference on Environment and Development, 1992). Sustainability is about living, within certain limits. It is about altering how people live, consume, socialize, exchange, share, educate and build identities. It means transforming societies and living in harmony with natural environment. Sustainability relies crucially on being able to make prudent choices, at the individual and the social level, between the present and the future (Jackson, 2008) Rampant individualistic behavior that seeks short-term gratification ends up undermining well-being not just for the individual but for society as a whole. So the task for sustainability is to devise mechanisms that prevent this "undermining of well-being" and preserve the balance between present desires and future needs.

Sustainable lifestyles however should reflect specific cultural, natural, economic and social heritage of each society. Sustainable lifestyles are shaped by a whole host of factors such as culture, politics, economics and social norms. For sustainable lifestyles to enter families and communities, to become part of everyday life, they must develop at all levels. They need to be helped and supported by the social and technical systems and institutions that surround individuals and groups (Center for Sustainable Development, 2004).

***Importance of Sustainable Lifestyle*:** Rowley *et al* (2000) opined that sustainable lifestyles have a role to play in the opportunity for developing countries to "leapfrog", a term used to describe the possibility to bypass inefficient, polluting, and ultimately costly phases of development. Leapfrogging offers developing countries like Nigeria the opportunity to jump straight onto a resource efficient sustainable development path rather than going through what other developed countries did. Leapfrogging might for example, involve the use of sustainable or solar energy in rural areas where unreliable or limited sources of energy exist. The objective is not only resource efficiency but also the creation of new business models, new social aspirations, initiatives which demonstrate that sustainable lifestyles is part of the solution and is feasible. This then becomes a way of life. Jackson (2008) believes that sustainable lifestyles can become instruments for development that will have positive impacts on the environment, societies and communities while advancing us towards the UN Millennium Development Goals and universal human rights.

Majority of the environmental problems occurring today result from lifestyles. Many of the problems are not solely technical problems, requiring simply engineering, physics, and chemistry for their solution (Oskamp 2000). The problems can be reversed by human behavior. That is change in lifestyle. Most of these environmental and health problems are getting more serious each year, so it is urgent that something is done to reduce or even reverse them. A change of lifestyle in a more sustainable direction is urgently needed in the society Cooper, include being environmental Ryley, & Smyth, 2001). Sustainable behaviors include being environmental friendly (e.g. not burning tyres), being frugal (putting off light when not in the room), and exhibiting equitable behaviors. All e.g. the behaviours involve aspects of individual lifestyles that include: dietary choices, use of energy and transportation, political priorities, support for policy measures, and contributions to societal change. Everyday choices, which can be seen as important drivers in maintaining a sustainable society, are however, generally understood to be difficult to alter (Svensson, 2012).

Generally major lifestyle changes according to Hedlund-de Witt, (2012) is not easy and most often typically occur only in response to major crises. (For instance, even the great behavioral changes produced by the AIDS epidemic have still not been enough to make most people's sexual behavior safe. Minkler *et al* (2008) are of the view that despite the drag of inertia, the motive of self-interest is a powerful one that can be appealed to in trying to create a healthier, less-polluted, sustainable society. Not only are there many structural (e.g. economical, infrastructural, institutional, social-practical) barriers for changing behaviors and lifestyles, they also tend to be deeply embedded in worldviews, values, and cultural associations and habits.

Strategies for Achieving Sustainable Lifestyles

Achieving sustainable lifestyle requires well thought out strategies and processes. These strategies which aim at improving lifestyles need to be based on an understanding of the restrictions on choice of people in difficult circumstances, so that realistic, credible advice and help can be given. Jacksons (2008), Simon-Brown, (2000) and Economos and Tovar (2012) suggest that attention should be given to interventions that employ multiple strategies across multiple settings involving whole communities. Some of these strategies include the following:

Education: This is an essential tool for achieving sustainability. It is a key to moving society toward sustainable lifestyles. Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues (Hopkins & McKeown, 2002).

Education can also target the young especially through curriculum change. Lakin and Littledyke (2008) believe that creating sustainable lifestyles will not be possible without the participation of future business leaders and entrepreneurs that is, the youths. According to Wycherley *et al* (2011) engaging people in sustainable lifestyles early in their lives through targeted and participatory education makes a lasting impression. It is therefore a crucial step to building a more sustainable future led by a new global generation of responsible individuals. Hopkins and McKeown (2002) noted that young people have become distanced from nature and that the distance has increased in recent years, with many not making the connection between the food they see in supermarkets and the land that produces it. Therefore there is need for them to be educated on all these and more.

A new approach to communications, using positive messages and more creativity, should be used to engage young in discussions about sustainability. It has also been suggested by Rowley *et al* (2008) that the use of social media like *Face book* and *Twitter* can help create awareness on what to do in order to live sustainable lifestyles. With global efforts to reduce the digital divide, more and more young people all over the world will be connected and able to share their ideas and initiatives. Public communications according to Svensson (2012) has a key role to play in making sustainable lifestyles understandable, approachable and most importantly, desirable by young people especially in developing countries like Nigeria.

Rowley *et al* (2000), Anand *et al* (2007) and Svensson (2012) suggest campaigns aimed at making people aware of the need to adopt sustainable life styles may be less than effective in local communities if appropriate language and messages are not used. Therefore there is need to involve local communities in the development of the campaigns to make them more effective. Minkler *et al* (2008) reports that public health initiatives arising from and directed by local communities offer a potentially more effective means of reducing disease risk than any other method.

Change in Value System: Values play an important role in the inescapable frameworks of meaning and meaning making that profoundly inform people's understanding and enactment of reality. According to Hedland-de Witt (2012), values not only tend to shape how individuals perceive particular (ecological) issues and their potential solutions, they also tend to influence their willingness to partake in such solutions themselves, as well as their support for addressing the issue. Hopkins and McKeown (2002) report that there is compelling evidence to suggest that high levels of environmental activism were strongly linked to values that considered the natural environment to be of great importance in someone's life. According to Simon-Brown (2000), sustaining the environment that sustains humanity will require that individuals change their values. Change of values will have to start from families and communities.

Increased Physical Activity: Scholars have shown ample evidence that regular participation in moderate-intensity physical activity reduces the risks of cardiovascular disease, type 2 diabetes, breast and colon cancers, several other chronic illnesses, and mental illness (Economic & Tovar, 2012; Rowley *et al* 2000; Minkler, 2008). Despite the known benefits of physical activity and public health efforts to promote activity, the proportion of people who meet the current guideline of physical activity is low around the world (Kanzler *et al* 2013).

Lifestyles are becoming increasingly dominated by sedentary behaviors, due in no small part to the advent of technologies that allow or force people to sit, including automobiles, television sets, computers, and the internet. Sugiyana (2008) reports that leisure-time sedentary behavior, typically TV viewing time, is associated with metabolic biomarkers (elevated blood glucose levels, triglycerides, and waist circumference) that are significantly related to the risk of diabetes and cardiovascular disease. Driving for commuting is another common sedentary behavior that is shown to have a negative impact on health (Cooper, Ryley, & Smyth, 2001). It has to be noted here that physical activity and sedentary behavior are independently associated with health outcome. Thus, prolonged sitting time contributes to poor health, regardless of leisure-time and physical activity levels.

Increasing physical activity and reducing sedentary behaviour are therefore, each distinct and important strategies for achieving active lifestyles and associated health benefits.. Sugiyama (2008) noted that physical activity does not have to be structured, planned exercise. It can be incidental activity such as brisk walking for transport or for recreation. Although structured vigorous exercising does have additional health benefits, moderate-intensity activity happening daily in a community environment is considered to be important because such activity can be easily embedded into one's everyday life patterns, and thus more likely to be maintained in the longer term.

***Nutrition**:* Scientific evidence is increasingly supporting the view that alterations in diet have strong effects, both positive and negative, on health throughout life (WHO, 2003). Lakin and Littledyke (2008) noted that dietary adjustments may not only influence present health, but may determine whether or not an individual will develop such diseases as cancer, cardiovascular disease and much later in life. It has been recognized by WHO (2003) that the food choices are influenced by a variety of conflicting factors such as peer and parental pressure, finance, socio-demographic standing, taste, mood and other variables. should be taken in to consideration in any health education programmes.

Motivation/Incentives: There may be need to introduce some incentive to encourage people who engage in behaviours that lead to sustainable life styles. Jackson (2008) recommended actions which encourage motives that are both reliable and durable in their effects on behavior.

Provision of Basic Infrastructure: Providing information to individuals is not sufficient in absence of enabling infrastructure that are needed in any community (Svensson 2012). For example, encouraging people to reduce their car personal dependency without providing high quality convenient alternatives (public transport, delivery services, car sharing and rental services, good bicycle paths, etc.), will not yield the desired result. Sugiyama (2008) suggested that proper planning of urban areas (achieved by high residential density and mixed land use) and public transport would reduce energy consumption and greenhouse gas emission mainly by minimizing the trips made by private vehicles.

In addition Center for Sustainable Development (2014) observed that greater compactness of residential developments would help preserve surrounding areas, which provide people with fundamental ecosystem services such as water and food. Suguyama (2008) is of the view that neighbourhood green spaces also have a number of environmental benefits such as lowering ground temperature during hot weather, filtering airborne contaminants, and decreasing rain-water run-off. Good pedestrian infrastructure and green environments would also contribute to lower vehicle use by making active travel choices (like walking) easier and attractive. Recreational green spaces in urban neighbourhoods (such as parks) is also important. In addition to providing opportunities for physical activity, such spaces enable people to have contact with nature (Sugiyama, 2008). In Nigeria for example, provision of basic infrastructure like electricity and security, is of utmost importance.

The Role of Government: All these strategies may not see the light of the day if the government is not involved. This is because the influence of government on social norms and expectations is paramount (Jackson, 2008). Policymakers influence people's values in a very subtle manner. For instance, governments intervene constantly in the social context during which countless different signals are sent out, for example, by the way the education system is structured, by the importance accorded to economic indicators, and so on.

Government policies shape and help create the social world. All these influence life styles. For example, it is only government intervention only that will make possible the implementation of such projects/programmes as:

- High residential density and mixed land use, which make various destinations such as shops and services close enough for walking or bicycling.
- Accessible public transportation systems that help reduce private vehicle use, and encourage activity for transport.
- Availability of recreational spaces, such as parks, community gardens, play grounds, and river banks, which entice recreational physical activities.
- Good walking and cycling infrastructure with attractive surroundings.

Government policies can influence lifestyles with proper regulatory tools such as bans and rules; fiscal measure, e.g. taxes, or information provision. In Nigerian, however, basic policies on health and safety are often lacking. Government at all levels in the country can facilitate the change towards sustainable lifestyles by supporting and enabling the development of a new vision for sustainable societies and by setting the regulatory, economic and institutional frameworks that encourage and enable sustainable lifestyles.

Conclusion

The sustainability challenge can be tackled by behavioural changes, which shape lifestyles. The choices which individuals and families make on energy use, transport, food, waste, communication and solidarity – contribute towards building sustainable lifestyles. Every sector of society has something to contribute. Governments have a key role to play by creating the appropriate frameworks and infrastructures (regulatory instruments, technological innovations, new public services) to enable citizens to change. In order to make sustainable lifestyles an easy choice, all stakeholders need to facilitate the integration of "sustainability" into existing socio-economic and value structures. The business sector can develop innovative solutions for sustainable lifestyles. Information and education are essential, as well as the full participation of civil society in the movement.

References

Anand, S. S *et al.,* (2007). A Family-based Intervention to Promote Healthy Lifestyles in an Aboriginal Community in Canada. *Canadian Journal of Public Health,* 98 (6), 447-451.

Center for Sustainable Development (2004). "*Every little bit helps….." Overcoming the challenges to researching, promoting and implementing sustainable lifestyles*. Westminster: Centre for Sustainable Development, University of Westminster: 48.

Cooper, J., Ryley, T., & Smyth, A. (2001). Contemporary lifestyles and the implications for sustainable development policy: Lessons from the UK's most car dependent city, Belfast. *Cities*, 18, (2), 103-113.

Economos, C. D & Tovar, A (2012). Promoting Health at the Community Level: Thinking Globally, Acting Local childhood Obesity. 8,(1) DOI:10.1089/chi.2011.0121

Göran, D., & Whitehead, M. (2007). *Policies and strategies to promote social equity in health.* Background document to WHO – Strategy paper for Europe. Arbetsrapport/Institute för Framtids studier; 14.

Hedlund-de Witt, A. (2012). Exploring worldviews and their relationships to sustainable lifestyles: Towards a new conceptual and methodological approach. *Ecological Economics,* 84,74-83.

Hopkins, C., & McKeown, R. (2002). Education for sustainable development: An international perspective In Tilbury, D., Stevenson, R.B., Fien, J., Schreuder, D., (eds.) *Education and Sustainability: Responding to the Global Challenge,* (pp. 13-24) Gland, Switzerland and Cambridge, UK: Commission on Education and Communication, IUCN,

Jackson T. (2008). The Challenge of Sustainable Lifestyles. Chapter 4 In *State of the World: Innovations for a Sustainable Economy:* THE WORLD WATCH INSTITUTE

Kranzler, Y., Davidovich, N., Fleischman, Y., Grotto, I., Moran, D., & Weinstein, R. (2013). A health in all policies approach to promote active, health lifestyle in Israel. *Israel Journal of Health Policy Research,* 2,16 http://www.ijhpr.org/content/2/1/16

Lakin, L., & Littledyke, M, (2008). Health promoting schools: integrated practices to develop critical thinking and healthy lifestyles through farming, growing and healthy eating *International Journal of Consumer Studies 32,* 253-259. Doi: 10.1111.j.1470-6431.2007.00658.x

McDonald, S., Oates, C. J. Alevizou, P. J., Young, C. W., & Chung-Ang, K. H. (2012). Individual strategies for sustainable consumption. *Journal of Marketing Management, 28 (3-4), 445-468.*

Minkler, M., Brechwich Vάsquez, V., Chang, C., Miller, J., Rubin, V., Blackwell, A., Thompson, M., Flournoy, R. & Bell, J. (2008). *Promoting Healthy Public Policy through Community – Based Participatory Researcch: Ten Case Studies. Oakland, CA:* PolicyLink. (www.policylink.org)

Oskamp, S. (2000). Psychological Contributions to Achieving an Ecologically Sustainable Future of Humanity. *Journal of Social Issues, 56 (3),* 373-390.

Rowley, K. V., Daniel, M., Skinner, K., Skinner, M., White, G. A., & O'Dea, K., (2000). Effectiveness of a community-directed `healthy lifestyle' program in a remote Australian Aborighinal community-*Auer NZJ Public Health, 24*, 136-441.

Simon-Brown, V. (2012). Sustainable living – Strategies for breaking the cycle of work and spend. *International Journal of Sustainability in Higher Education, 1 (3),* 290.

Svensson, E. (2012). Achieving sustainable lifestyles? Socio-cultural dispositions, collective action and material culture as problems and possibilities. *Local Environment, 17 (3),* 369-386

Timmerman, G. M. (1999). Using Self-Care Strategies to Make Lifestyle. Journal of Holistic Nursing, 17(2).169-183 DOI: 10.1177/089801019901700205

United Nations Conference on Environment and Development, *Earth Summit:* the UNCEP, Rio de Janeiro. (1992) Agend 21. The

World Health Organisation (2003). *Joint WHO/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases* (2002: Geneva, Switzerland) Diet, nutrition and the prevention of chronic diseases: Report of a joint WHO/FAO expert consultation, Geneva, 28 January –1 February 2002/ (WHO technical report series; 916)

Wycherley T. P., Mohr, P., Noakes, M., Clifton, P. M., & Brinkworth, G. D. (2011). Education and Psychological Aspects Self-reported facilitators of, and impediments to maintenance of healthy lifestyle behaviours following a supervised research-based lifestyle intervention programme in patients with type 2 diabetes. *DIABETICMedicine* DOI: 10.1111/j/1464-5491.2011.03451.x

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Chemical Composition and Sensory Evaluation of Sorrel (*Hibiscus sabdariffa*) Cordial Juice

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Abstract

The study investigated the chemical properties of sorrel cordial juice. Cordial juice produced from sorrel calyces were analysed for nutrient, antinutrient and sensory properties. Cleaned calyces were used to produce sorrel cordial juice using standard procedures. Black currant cordial juice used by consumers served as control was used to compare and investigate the chemical properties of the product (sorrel cordial juice). Sorrel cordial juice had significantly ($P<0.05$) higher crude protein, ash, calcium, iron, phosphorous, zinc, copper, ascorbate and β-carotene than the control. It contained significant ($P<0.05$) traces of cyanide, phytate and tannin than the control. Sorrel cordial juice was preferred to the control. These results suggested that diversifying the utilization of this indigenous nutritious plant through the development of new product would provide new value-added product into the family menu.

Key Words: Sorrel Calyx, *Hibiscus sabdariffa*, Chemical Composition, Sensory Properties

Introduction

Hibiscus has more than 300 species, which are distributed in tropical regions around the world (Yadon, 2005). Most hibiscus species are used as ornamental plant and are believed to have some medicinal properties. One of the species is *Hibiscus sabdariffa,* commonly named as "red sorrel" or "roselle", "India sorrel", and "Florida cranberry".

Onyeke (2013) reported that Murdock, an African Archaeologist was the first to report on the origin of sorrel at Niger waterside, centre for the cultivation of indigenous plants in about 4000 B.C. Uganda assessment and reports show that the original habitat of sorrel was West Africa and the plant was carried to India during the Muslim invasion in the 8th century A.D, later to West Indies, Jamaica, Florida, California, Philippines and finally, it spread to other parts of the world (Onyeke, 2013).

Sorrel plant (*Hibiscus sabdariffa*) is an acid testing harb, erect, bushy branched annual plant of *malvaccas* family (James 2003). It grows in a warm and humid tropical and subtropical region. There are two major species of sorrel – Var altissima Wester and Var sabdariffa. Var altissima Wester is a tall vigorous unbranched plant, about 5m in height. It is not edible but the stem is used for the production of fibre (Onyeke, 2013). The second type, Var sabdariffa, is of two varieties. The varieties are differentiated by their calyces as follows: the red-calyx and the yellow-calyx varieties. The plants are grown for their edible calyces, seeds and leaves. The plant is widely grown in the northern part of Nigeria with promising nutritional potential (Onyeke, 2001). It is one of the unde-exploited food crops of Nigeria.

Sorrel plant appears to have potential exploitation by the food processing industry (Yadong, Chin, Malekian & Berh, 2005). Limited research has been carried out on the development of products from calyx of the sorrel plant (Nnam and Onyeke, 2010). Already, there is a population drink produced from sorrel calyx in Nigeria which is used for entertainment during ceremonies. The drink has been concentrated to produce bottled carbonated juice (karkadeh juice) in Sudan (James, 2003). Unsuccessful previous attempts to produce carbonated sorrel drink were made by some individual in the carbonated drink industry. The main reason for failure were the occurrence of fermentation precipitation and fading of the red colour intensity of the bottle (Onyeke, 2013)

In Africa, many researchers have noted the food potentials of the sorrel plant (Nnam and Onyeke, 2003). The calyx could be processed to produce jam, juice, ices, herbal tea and wine (Yadong, chin, Malekian & Berh, 2005). Sorrel calyx has some medicinal uses such as the treatment of bilious attacks, decreasing the viscosity of the blood reducing blood pressure and as diuretic for stimulating intestinal peristalsis (Rich, 2004). There is need to document the nutrients and antinutrients composition of the product made from sorrel calyx. Sorrel leave are locally called zobo leaves or 'Yakwa' leave in Hausa or 'Isapa' or 'Aukon' in Yoruba. Sorrel plant could help to promote the use of the product made from sorrel calyx especially in areas where the food crop is not popular. Sorrel cordial juice could help to diversify dietary component and possibly increase nutrient intake.

Objectives of the study

The major objective of this study was to investigate the chemical properties of product developed from sorrel calyx and compare it with existing product.

Specifically, the study:

1. determined the nutrients and antinutrients composition of the product made from sorrel calyx;
2. Assessed the acceptability of the products from sorrel calyx; and
3. Compared the product produced with black currant cordial juice.

Materials and Methods

***Preparation of Materials*:** Dry red sorrel calyces used for the study were harvested from the Faculty of Agriculture farm, University of Nigeria, Nsukka. Processing method one hundred and eighty grammes (180g) of sorrel calyces were cleaned manually. The washed calyces were soaked in cold water, extracted, sweetened and reboiled used for the production of cordial juice. The sample was stored until analysed.

Development of product from sorrel calyces

Step 1: Sorrel calyces (180g) were picked, washed and dried in an air oven at 55 ^{o}C for 5 mins.

Step 2: The cleaned dried red sorrel calyces were soaked in cold water (750ml) for 1hr at room temperature (28 ± 2^{o}C).

Step 3: The soaked sorrel calyces were boiled with water for 10mins. Juice was extracted with double layer Muslim cloth by decanting from the cooking pot.

Step 4: Granulated sugar (650g) was added to the juice and boiled at 90^{o}C for 10mins.

Step 5: The juice was bottled hot in pre-sterilized bottles and corked with locally made corking machine.

Step 6: The sorrel cordial juice and black currant cordial juice (control) were stored for evaluation for chemical and sensory properties.

Chemical Analysis

***Proximate analysis*:** The Association of official Analytical Chemists (2000) methods was used to determine the proximate analyses. The analyses were performed in triplicates.

Step 1: Protein was determined using microKjeldahl method. The crude protein was calculated by multiplying the total nitrogen by the conversion factor of 6.25 (N x 6.25).

Step 2: Lipid (fat) was determined by extracting petroleum ether (Bpt 40^{o}C – 60^{o}C) using Tector Sohxlet extractor for 3hr.

Step 3: The total ash was estimated by weighing 2g of each sample into crucible and placed in muffle furnace at 550^{o}C for 3hr until ash was obtained.

Step 4: Crude fibre was determined by boiling in sulfuric acid for 30 mins in an automatic fibre technology. The sample was washed with hot water and reboiled with potassium hydroxide for 30 mins and ashed at 550^{0}C for 1hr in muffle furnace.

Step 5: Moisture was determined using an air oven overnight at 105^{o}C to a constant weight. A factor (F) was calculated.

Step 6: Carbohydrate was computed by difference. The sum of percentage of crude protein, ash, fat, fibre and moisture were subtracted from 100%.

Mineral Analyses:

The ashes from the samples were used to determine mineral contents.

Step 1: The samples were dissolved in distilled water and filtered through no 5 whatman filter papers to get filtrates.

Step 2: the filtrates were used to determine calcium, iron, zinc, copper and phousphoms as described by Onwuka (2005), using an Atomic Absorption spectrophotometer (flame system, Buck scientific Inc., model 2004), using the standard lamps and solutions.

Ascorbic acid was determined using AOAC (2000) method.

Step 1: About 2g of the samples were dissolved with distilled water.

Step 2: 2ml of trichloro-acetic acid was added and colour was developed with 2, 6 – dichloroindophenol.

Step 3: The colour developed was read with spectrophotometer**.**

β – Carotene (pro-vitamin A): was determined using the method adopted from International Vitamin A Consultative Group.

Step 1: Samples were washed with volatile organic solvent (chloroform).

Step 2: The absorbance of the filtrate was measured with UV – spectrophotometer at 328nm.

Antinutrients:

Tannin was determined by AOAC (2000) method.

Step 1: About 0.5g of each sample was extracted with 10ml of de-ionized water.
Step 2: The filtrate was developed with 3ml of 0.1m ferric chloride in 0.1N hydrochloric acid, followed by 3ml of 0.008m potassium ferrocynate.
Step 3: Absorbance was read at 520nm in spectrophotometer within 10 mins of preparation.

Phytate was determined by:
Step 1: About 0.5g of each sample was extracted with 100ml of 2.4% HCl and shaken for 1hr. Step 2: Colour was developed with 1ml modified reagent (0.03% $FeCl_3$. $6H_20$ and 0.3% sulphosalicyclic acid) and read at 500nm in a spectrophotometer.

Cyanide was determined by the rapid enzymatic assay using linamarase extracted from cassava context under laboratory condition based on the method of Ikediobi, Onyia and Eluwah (1980). The absorbance of the characteristic deep orange colour produced on incubation of the released cyanide with alkaline picrate was read at 490nm.

Sensory evaluation

Preparation of samples: Sorrel cordial juice which was prepared and stored and the control (black currant cordial juice) bought from the market were all subjected to sensory evaluation.

***Selection of panel*:** Twenty-six trained panelists were drawn from the Departments of Home Science, Nutrition and Dietetics and Food Science and Technology, University of Nigeria, Nsukka, for the evaluation. They were exparts in the field of Home Science and also familiarity with the product.

***Instrument for Data Collection*:** The parameters tested include colour, flavor, texture and overall acceptability. A nine-point hedonic scale was selected for sensory evaluation of the product and control, (9 = like extremely, 8 = like very much, 7 = like moderately, 6 = like slightly, 5 = neither like nor dislike, 4 = dislike slightly, 3 = dislike moderately, 2 = dislike very much being the middly score and 1 = dislike extremely). The appropriate codes were tallied with the codes in the instrument. Food attitude and rating form (FARF) was selected for assessing general acceptability of the product developed and the control. The panelists rinsed their mouths with a glass of water after tasting each product.

***Data collection Techniques*:** Twenty-six copies of the questionnaire were administered to the respondents with the help of food laboratory assistants. The judges were instructed on the use of the scoring sheets and the importance of their independent judgement. They were served with small plates and cups to place the products and a glass of water was given to each of the judges to rinse their mouth after each testing to avoid a carry over effect from the proceeding samples. The products were coded to tally with the codes in the instrument. The evaluation forms for each product were collected separately at the end of each testing. All the copies of the questionnaire were retrieved.

Data analysis Techniques: Data collected were analysed using means and standard deviation.

Results

The following findings were made:

Table 1: Proximate composition of sorrel cordial juice and black currant cordial juice (%)

Nutrients	Sorrel cordial juice	Black currant cordial juice
Crude Protein	4.4 ± 0.1	1.2 ± 0.15
Crude fat	0.46 ± 0.11	0.76 ± 0.05
Ash	0.36 ± 0.05	0.23 ± 0.05
Carbohydrate	1.15 ± 1.06	7.23 ± 0.15
Crude fibre	Trace	Trace
Moisture	93.6 ± 0.91	90.6 ± 0.2

Values in the same row are significantly different (p<0.05).

Table 1 shows the proximate composition of sorrel cordial juice and black currant cordial juice. There were differences in proximate values between sorrel cordial juice and black currant cordial juice. Sorrel cordial juice had higher crude protein (4.4%) and ash (0.36%) than black currant cordial juice. On the other hand, black currant cordial juice had higher (0.36%) crude fat (0.76%) and carbohydrate (7.23%) than sorrel cordial juice (0.46% and 1.15% respectively). There were traces of crude fibre in both samples. Black currant cordial juice had higher moisture (93.6%) while Black cordial juice had 90.6%.

Table 2: Micronutrients composition of sorrel cordial juice and black currant cordial juice (mg and µg)

Nutrients	Sorrel cordial juice	Black currant cordial juice
Calcium (mg)	2.6 ± 0.1	1.26 ± 0.15
Iron (mg)	15.6 ± 0.25	6.5 ± 0.3
Phosphorus (mg)	48.4 ± 0.15	36.36 ± 0.05
Sodium (mg)	3.56 ± 0.05	18.46 ± 0.41
Zinc (mg)	1.46 ± 0.15	0.7 ± 0.11
Copper (µg)	56.66 ± 1.15	8.3 ± 0.11
Ascorbic acid (mg)	136.1 ± 1.15	126.7 ± 0.15
B-Carotene (µg)	10.0 ± 0.01	8.7 ± 0.2

Values in the same row are significantly different (p<0.05)

Table 2 shows the mineral, ascorbate and β-carotene compositions of sorrel cordial juice and black currant cordial juice. There were varied differences in the micronutrients levels of sorrel cordial juice and black currant cordial juice. Sorrel cordial juice had higher Ca (2.60mg), Fe (15.60mg), P (48.40mg), Zn (1.46mg), Cu (56.66µg), ascorbic acid (36.10mg) and β-carotene (10.00µg) than black currant cordial juice. Black currant cordial juice, however, had only higher ($p<0.05$) Na (18.47mg) than sorrel cordial juice (3.56mg).

Table 3: Antinutrient composition of sorrel cordial juice and black currant cordial juice (mg/100g)

Antinutrients and food toxicant	Sorrel cordial juice	Black currant cordial juice
Tannins	Trace	0.9
Cyanide	Trace	Trace
Phytate	Trace	Trace

Values in the same row are significantly different (p<0.05)

The antinutrient and composition of sorrel cordial juice and black currant cordial juice are shown in Table 3. Tannins value for black currant cordial juice was 0.90mg and trace value for sorrel cordial juice. The samples had traces of cyanide and phytate.

Sensory properties

Table 4: Sensory properties of sorrel cordial juice and black currant cordial juice

Attributes	Sorrel cordial juice	Black currant juice
Flavour	8.08 ± 0.95	6.44 ± 1.63
Texture	7.76 ± 0.97	6.88 ± 1.27
Colour	8.00 ± 0.82	6.60 ± 1.7
General acceptability	8.04 ± 0.91	6.24 ± 1.59

Values in the same row are significantly different (p<0.05)

Table 4 shows the sensory evaluation scores for sorrel cordial and black currant cordial juices. There were differences between sorrel cordial and black currant cordial juices. Sorrel cordial juice had higher ($p<0.05$) values for flavour (8.08), texture (7.76), colour (8.00) and general acceptability (8.04) than black currant cordial juice (6.44, 6.88, 6.84 and 6.24, respectively). The sorrel cordial juice was well accepted by the panelists than the control.

Discussion

The higher protein content of sorrel cordial juice than that of the black currant cordial juice was significant (Table 1). This is especially in the developing countries like Nigeria where protein malnutrition is prevalent (Grewal, 2000). It is known that the most common form of malnutrition in Africa is protein-energy malnutrition (PEM). The need for cheaper alternative sources of protein cannot be overemphasized. Sorrel cordial juice is a cheap source of protein and could be promoted and consumed to alleviate protein malnutrition (Nnam & Onyeke 2010). The lower crude fat content of sorrel cordial juice has important health implication. It is more ideal food than black currant cordial juice. Consumption of high fat is associated with overweight. This predisposes one to obesity and cardiovascular diseases. The higher ash content of sorrel cordial juice suggests that it may contain more minerals. Iron, iodine and zinc are problematic nutrients in developing countries. Iron deficiency anaemia precipitates learning disabilities, an increase risk of infection, diminished work capacity and could to lead to the death of women during pregnancy and child birth (Hunt, 2005). Sorrel cordial juice with its high ash content may contribute significantly to reduction of some of the micronutrient deficiencies in Nigeria. These deficiencies result from diets that are rich in energy and poor in proteins, minerals and vitamins. High levels of iron, β-carotene (pro-vitamin A) and the moderately high level of zinc in sorrel cordial juice is of nutritional importance. A 100g serving of sorrel cordial jelly (15.60mg Fe/100g) per day will provide all the iron that is needed by an adult. Zinc is among the important minerals deficient in the developing countries. Sorrel cordial juice contains relatively high amount of zinc. Zinc deficiency negatively influences growth of children and increases the risk of diarrhea, malaria, respiratory infections and child mortality (Black, 2003). β-carotene is important because it is a precursor of vitamin A. Currently, it is estimated that at least 40 million preschool children consume insufficient amounts of vitamin A; 13 million have some eye damage and annually 250,000 to 500,000 preschool children become partially or totally blind as a result of vitamin A deficiency. Some 37 countries, predominantly in Southeast Asia and Africa, are affected. In vitamin A–deficient populations, improving vitamin A status reduces the prevalence of anemia in most of the cases (Mwanri, 2000). Some vitamins such as ascorbic acid and provitamin A (β-carotene) while providing nutrients also serve as antioxidants which have disease-preventing and health promoting potentials, as phytochemicals. Ingestion of ascorbic acid has been known to enhance iron absorption and counteract the inhibitory effect of tannins on bioavailability (Nnam & Onyeke, 2010). Sorrel cordial juice has appreciable amounts of calcium and phosphorus. Consumption of sorrel cordial juice might be good source of minerals very important for strong bones and teeth. The trace amounts of antinutrients in sorrel cordial juice are beneficial (Table 3). This is because antinutrients bind important nutrients and make them unavailable for utilization in the body. Tannins interact with proteins and enzymes to increase the excretion of proteins and essential amino acids (Henry & Massey, 2001). Phytate reduces the bioavailability of minerals and causes growth inhibition. The low levels of phytate in sorrel cordial juice would increase bioavailability of iron and protein. This would reduce anaemia and protein malnutrition in communities that grow and consume sorrel product.

Sorrel cordial juice had higher ($p<0.05$) flavor (8.08), texture (7.76) and colour (8.00) than black currant juice, 6.44, 8.88 and 6.84, respectively (Table 5). Yodang *et al*. (2005) reported that many parts of sorrel are acceptable and useful in various food productions. This observation agreed with that of Nnam & Onyeke, (2010) who reported that in Switzerland, sorrel calyces are used for jams, jellies, sauces and wines.

Conclusion

This study showed that the sorrel cordial juice developed compared favourably with already existing similar food product (black currant cordial juice). The two products were evaluated for nutrients, antinutrients and sensory properties. The sorrel cordial juice contained higher levels of some of the micronutrients than the control, especially Fe, Na, Zn, Cu, P, ascorbic acid and β-carotene. It established diversified food uses of this indigenous local plant. The product was nutritious and acceptable. This offers new food uses for sorrel an indigenous available food plant that could be commercially produced in large scale.

Recommendations

1. Advertisement to promote sorrel product must be intensified in Nigeria and other countries in West Africa where sorrel grows.
2. Use of the products, needs to be encouraged as an alternative to imported juice. This would increase consumption that was limited in many families due to high costs.
3. There is need for biological studies on these new products possibly using rats to determine the bioavailability of the nutrients (proteins, minerals and vitamins)

References

Association Official Analytical Chemists. (2000). *Official Methods of Analysis.* Washington D.C.pp35-56

Black, R. (2003). Micronutrient deficiency – an underlying cause of morbidity and mortality. *Bulletin of World Health Organisation*, 81 (2), 79.

Grewal, R.B. (2000). Utilization and processing of soybean to prepare traditional foods of India. Production, processing and utilization in Nigeria. The third international soybean processing and utilization conference (ISPUC-III): 2000 of the innovative era for soybean, Tsukuba. Ibarak. Japan. 325-326.

Henry, C.J.K. & Massey, D. (2001). Micro nutrients changes during food processing and storage. Crop Post-harvest Programme. Issue Paper 5.

Hunt, (2005). The potential impact of reducing global malnutrition on poverty reduction and economic development. *Asia Pacific Journal of Clinical Nutrition*, 14, 10-38

Ikediobi, C.O., Onyia, G.O.C. & Eluwah, C.E. (1980). A rapid and inexpensive enzymatic assay for total cyanide in cassava (*Manihot esculenta crantz*) and cassava products. *Journal of Agriculture, Biology and Chemistry*, 44, 2803-2809.

James, M.S. (2003). Roselle – *Hibscus sabdariffa L.* Institute of Food and Agricultural Science. University of Gainesville, Florida; 659.

Mwanri, L., Worsley, A., Ryan, P. & Masika, J. (2000). Supplemental vitamin A.improves aneamia and growth in anaemic school children in Tanzania *Journal of Nutrition,* 130, 2691-2696.

Nnam, N.M. & Onyeke, N.G. (2003). Chemical composition of two varieties of soorel (*Hibiscus sabdariffa*) calyces and the drinks made from them. Dept. of Home Science, Nutrition and Dietetics, University of Nigeria. Nsukka. Nigeria. Netherlands: *Plant Foods for Human Nutrition.* Kluwer Acadm Publishers. 58, 1-7.

Nnam, N.M.and Onyeke, N.G. (2010). Development of recipes and products from sorrel (*Hibiscus sabdariffa*) calyces, leaves and seeds and evaluation of their nutritionals phytochemicals and sensory properties, (4th Eds.). Nigeria Universities Research and Development Fair (NURESDEF). 8.

Onyeke, N. G. (2001). Chemical evaluation of the calyx, seed and leaf of sorrel plant *(Hibiscus sabdariffa*) and its drink. M. Sc. Dissertation. Department of Home Science, Nutrition and Dietetics, University of Nigeria. Nsukka. Nigeria.

Onyeke, N.G. (2013). Development of products from sorrel. (*Habiscus sabdariffa*) and evaluation of their nutrients, phytochemicals, antinutrients, toxicants, physico-chemical, sensory and storage properties. Ph.D Thesis. Department of Home Science, Nutrition and Dietetics, University of Nigeria, Nsukka. Nigeria.

Onwuka, G.I. (2005). Food *Analysis and Instrumentation,* Naphthalie print, HG Ltd, Lagos, Nigeria, pp. 319

Rich, M. (2004). *Hibiscus sabdariffa*. Plants for future edible, medicinal and useful plants for a healthier world. England and Wales: Charitable Company Ltd.
Yadong, Q. Chin, K. L., Malekian, F. & Berh, M. (2005). Biological characteristics, Nutritional and Medicinal value of Roselle, *(Hibiscus sabdariffa)*. Agriculture Research and Extension Centre. Department of Agriculture, Southern University Agriculture Centre. Circular UFNR, 604.

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Meeting Clothing Needs of Elderly Women in Port Harcourt Urban of Rivers State, Nigeria

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Abstract

This study investigated the clothing needs of elderly women in Port Harcourt urban. It determined the factors that should influence the clothing preference of elderly women, styles/design features suitable for elderly women as well as the problems elderly women encounter with ready -made clothes. The study adopted a survey research design. A sample of 360 respondents was used for the study. Questionnaire was used for data collection. Data were analyzed using means. The results indicated that elderly women desire comfort, fit, quality, reasonable prices and function (the kind of activity engaged in), among others, in selecting/designing their clothes. Elderly women encounter ten problems with ready-made clothes. The clothing needs of elderly women are closely linked to their self concept. Elderly women desire the latest in fashion but slightly modified to fit their new physique (due to physiological changes). Based on the findings it is recommended, among others, that designers should explore strategies of developing clothing and accessories that suit the older consumers' changed physiques.

Keywords: Elderly, Women, Clothing, Needs, Physiological, Changes

Introduction

The elderly women are those women who are aged 60 and above. They may have retired or are still actively engaged in careers outside the home, volunteer work, social activities (mostly church activities) and other economic activities. These activities tend to influence the clothing needs of the women. According to Solomon and Rabolt (2004), today's elderly women are active, interested in appearance and what life has to offer, take good care of their body to be fit and fashionable in order to look good and younger. As a result, elderly women in contemporary culture are more fashion conscious than their equivalent did in the past. They also tend to retain attitudes developed in earlier years regarding the proper type of clothing to be worn for given occasions. They spend more money on clothes, more time shopping, do more reading about fashion and replace ward robe more often than the same age did in the past (Walsh, Mitchell and Thuran, 2001). In the same vein, Twigg and Majina (2011) observed that older women are shopping for clothes more frequently than their equivalents did in 1960s though they are not spending larger proportion of their income. Tyagi and Alka (2013) further stated that clothing expenditures are usually lower for older age group than for any other group, hence value for price is important.

The economic situation of elderly women today has improved significantly compared to their equivalent in the past and accordingly, their purchasing power has grown. According to Carrigan, Szmigin and Wright (2004) absence of financial and family obligation has made older women better and their accumulation of more education, wealth has improved their economic prosperity than their parents. Moody and Sood (2010) noted that elderly women today has acquired more wealth due to their educational background, which has brought about job opportunities, wealth creation and affluence though income may decline on retirement, so too do other financial demand resulting in relatively high discretionary income

Based on the National census conducted in 2006 in Nigeria, there is an increase in the percentage and number of those aged 60 and above. With a growing population of elderly women, elderly clothing demand will continue to increase and will offer a field to be explored by fashion designers and fashion industry. The elderly women are over looked and excluded from fashion because their clothing preferences and problems have not received the consideration and study given to other age levels and fashion industries see the elder clothing market as a dead-end sales opportunity (Guzel, 2013). Arthur (2003) further confirms that only small quantities of clothing are available to the elderly and that the available ones do not fit well due to lack of attention to proportion and physiological changes which result to poor aesthetic value and fit. Lee, Damhorst, Lynn, Min-Sun, Joy and Martin (2012) posits that putting the needs and preferences of elders into consideration will create awareness in both marketing and elders clothing problems and that fashion industries should take elders consuming needs into considerations and respond to the expectations of elderly women in the market as one of the expectations of elder consumer is that dresses they bought should have features that meet their physiological changes and needs.

Ageing in human is a multidimensional process which involves physical, psychological and social dimensions. Some dimensions of ageing grow and expand while others decline. Physiological changes in old age are perceived as an alteration in the normal structure and function of the body. According to Tyagi and Alka (2013), the body grows shorter during ageing and the decline in height is due to a continuous bending and shortening of the spinal column. Also, there is a gradual and systematic calcification of the cartilage. The joints become stiffened, fatigued with general tendency of weakness. Weight generally increases and the location of fat deposit on the body shift. Expanding waistlines and an increase abdominal extension are common as are reductions and lowering of buttocks. The bust level is often lower for women. Change in muscle tone and in the tendons can result in shoulders slumping forward and an increase shoulder angle. These changes affect the body shape, posture and mobility of the elderly making them to walk more slowly with increasingly difficulty. This implies that clothing of the elderly women should be designed with their physical characteristics in mind.

Dwivedi and Lunia (2007) reported that significant physical changes gradually occur as the elder woman progress past middle age. Most of the changes are in body proportion and function. The contours of the face is not left out in these changes as the cheek bones, nose, ears and lips become more prominent. The chin becomes double and fat cushions around the eyes and the eyeballs decreases. The face becomes lean with lines and wrinkles, the abdomen and hip expand and the leg gets increasingly thinner. Graying, thinning of hair and wrinkling skin also accompany ageing. This facial features in elderly women call for styles and colours that have softening effect.

Clothing is a supplementary tool presenting a person's presence, what she wants in the future, his point of view, where she stands in the society, anytime and anywhere Clothing frequently is important as a means towards acceptance by the group and there is a relationship between clothing and social status. Clothing is important for active elderly women because they want to have new social relationships and especially to hide their defects due to physical changes and relaxing psychologically (Ozipek, Tanyas and Mahmutoglu-Dinc, 2012). The physical changes influence the social aspects of the elder woman's life and choices including clothing preferences. According to Tyagi and Alka (2013) physical limitations may impair or disrupt social activities the elder has enjoyed over the years. Changes also occur as a result of retirement, death of family members or the breakup of close friends which may be very upsetting. Health issues can make it difficult to dress and perform personal care activities as well as to operate bra closures and buttons.

Challenges due to the above alterations in the body result to an array of figure types and variations. These make it difficult for the elderly women to find an appropriate clothing to fit their altered body. In all these changes, clothing design featuring comfort, fit and up-to-date is preferred by elderly women (Twigg, 2007). Twigg (2007) opined that the changes that occur in the body of the elderly should be incorporated into decisions about clothing at an individual level because styles that once suited or fitted may no longer do so as the body changes therefore, clothing choices in old age should reflect changes in the body. Other factors contributing to improper fit are lack of pattern for elderly body size and shape, inadequate size ranges for current body type variation. Sizing based on out dated anthropometric data from voluntary product standard created in the 1940s based on their fit model that did not account for current body proportion and changes are still in use. Also, the body structure of elderly women in Nigeria differs from that of Europeans and Americans. All these constitute a problem to elderly clothing. Ashdow (2003) opined that improvement and implementation of sizing system based on current population study of the elderly will be financially beneficial to domestic clothing firms and marketers. Specialization in fit and size of the elderly may be key in retaining some domestic competitive advantage in the clothing industry (American textile institute, 2003). To acquire good fit, there must be agreement between several stakeholders: the clothing designer, the pattern grader/maker and the consumer. Each has a different role in the designing process. The designer creates aesthetic look taking into account its relationship to the body, the pattern grader/maker is responsible for the maintenance of the desired look on a variety of body types using few quantities of sizes (Ashdow, 2003).

In Nigeria, there is the tendency of not making accurate garment for proper fit using free hand cutting method (Shailong and Igbo, 2009). In order to step up domestic production of elderly women clothes in Nigeria, there is need to investigate the clothing needs of elderly women as elder consumers have great importance due to their feature distinct from other consumer groups, will constitute a major consumer group that will shape the national markets, because the increasing number of elderly women will require giving goods and services in compliance with their needs and lifestyles.. It is in view of this that this study sought to survey the clothing needs of elderly women in Port Harcourt urban in order to sensitize for elderly clothing designers an pattern makers as this will lead to employment generation, wealth creation and poverty reduction.

Purpose of the Study

The main purpose of the study was to investigate the clothing needs of elderly women in Port Harcourt urban. Specifically, the study determined:

1. Factors that influence the clothing preferences of elderly women in Port Harcourt urban
2. Styles/design features preferred on elderly women's clothing due to physiological changes.
3. Problems elderly women in Port Harcourt urban encountered with readymade clothes

Research Question

The study was guided by the following research questions,

1). What are the factors that influence the clothing preferences of elderly women in Port Harcourt urban?

2) What are the styles/design features preferred on elderly women's clothing due to physiological changes?

3) What are the problems elderly women in Port Harcourt urban encounter with readymade clothes?

Methodology

***Area of Study*:** The area of the study is Port Harcourt urban. Port Harcourt is the capital city of Rivers State. It lies along Bonny River and it is located in the Niger Delta. Port Harcourt urban is densely populated with active elderly women. There are many churches in the area. These churches include Catholic churches, Anglican Communion churches and various denominations of Pentecostal churches but the Anglican Communion church was sampled.

***Design of the Study*:** The design of the study was survey. The survey design was considered suitable for this study because it would enable information to be gathered from fairly large number of elderly women with an intention of assessing their opinions on their clothing needs and preferences.

***Population for the Study*:** Although the population size of elderly women in Anglican churches were not available, the population for this study comprised of all the elderly women 60years and above living in Port Harcourt urban who are educated and retired but are still actively engaged in careers outside the home, voluntary work, social activities (mostly church activities) and other economic activities. The entire population of elderly women in Port Harcourt urban is about 17,026 (National Population Commission, 2006).

***Sample of the Study*:** The sample for the study was made up of three hundred and sixty (360) elderly women aged 60 and above. These women are actively involved in church activities to keep themselves busy hence, the Anglican Communion churches within Port Harcourt urban were used for the study. Simple random sampling technique was used to select 15 Anglican churches (St Cyprians church, hospital road, St Andrews church, mile one, St John's church, Bishop Johnson street, St Peters church, Hospital road, St marks church , Borokiri, Bishops Court Kings chapel, Harley street, St Paul's cathedral, Diobu, Chapel of God, Port Harcourt, St Thomas church, Diobu, Immanuel church, G.R.A, St Matthews church, Nkpogu, , Calvary Anglican, Emenike, Jerusalem church, Port Harcourt, King of Kings D/line, Diobu, New Convanant church Nzimero street) out of the 24 churches in Port Harcourt urban (Anglican Communion church year calendar, 2013). 24 elderly were sampled from each of the 15 churches. This yielded a total of three hundred and sixty (360) respondents who formed the sample for the study.

***Instrument for Data Collection*:** The instrument used for data collection was a 4-point rating scale of strongly agree -4, agree -3, disagree -2 and strongly disagree – 1. It was developed based on specific purposes of the study. It was face validated by three experienced Home Economics lecturers in Ignatius Ajuru University of Education. These Home Economics teachers were given three copies of the questionnaire, and were requested to identify ambiguities and proffer suggestions for improving the instrument towards meeting the objectives of the study. The expert's inputs were used to draft the final copy of the questionnaire for the study. Test retest method was used to establish reliability. The coefficient of reliability of the instrument obtained is 0.89.

***Data Collection and Analysis*:** A total of 360 copies of the instrument were distributed by hand through the pastors' wives who were also the women leaders to the respondents. All the three hundred and sixty questionnaire forms were retrieved. Data were analyzed using mean. A cut- off or 2.50 was considered as agreed while any mean less than 2.5 was considered disagreed.

Findings

The following findings were made:

a). Factors that influence clothing preference of elderly women

Table 1: Mean Responses on Factors that influences clothing preference of elderly women (N= 360)

S/N	Factors that influence clothing preference of elderly women	Mean	Remark
1.	Beauty of the clothing	3.40	Agreed
2.	Price of the clothing	3.40	Agreed
3.	Clothing in vogue	3.10	Agreed
4.	Classic clothing	2.80	Agreed
5.	Warmth /coolness in relation to geographic location	4.00	Agreed
6.	Ease of care	4.00	Agreed
7.	Softness of fabric	3.10	Agreed
8.	Comfort of the wearer	4.00	Agreed
9.	Colour of the clothing	3.00	Agreed

10.	Style of the clothing	3.30	Agreed
11.	Durabilityof clothing	3.40	Agreed
12.	Ease of wear	4.00	Agreed
13.	Weight of garment	3.20	Agreed
14.	Culture	4.00	Agreed
15.	Fit of clothing	4.00	Agreed
16.	Function (the kind of activity the elderly is engaged in)	4.00	Agreed
17.	Self expression	4.00	Agreed
18.	Safety of wearer	4.00	Agreed
19.	Quality of fabric and construction	4.00	Agreed

Table 1 revealed that all the nineteen factors that influence clothing preferences of elderly women were accepted by the respondents. Indicator/item nos. 5, 6, 8, 12, 14,15, 16, 17, 18 and 19 (warmth/coolness in relation to geographical location, ease of care, comfort of the wearer, ease of wear, culture, fit of clothing, function, self expression, safety of wearer and quality of fabric and construction) recorded the highest mean score (4.00).

b) Style / design feature preferred by elderly women due to physiological changes

Table 2: Mean Responses on Style /Design Features preferred by elderly women due to Physiological Changes (N= 360)

S/N	Styles /Design features suitable for elderly women	Mean	Remarks
My clothing should:			
1.	be simple	4.00	Agreed
2	be proportionate to my figure	3.70	Agreed
3.	be oversized	1.10	Disagreed
4.	be conservative (Not Revealing)	3.50	Agreed
5.	be Warm and light weight to prevent fatigue in Walking and working	3.20	Agreed
6.	be designed to accommodate the elongated breast	3.40	Agreed
7	be suitable for all weather	3.50	Agreed
8.	be soft and non-irritating		
9	be free but support sagging muscles for girdles	3.00	Agreed
10	be low with nonslip soles for shoe	4.00	Agreed
11	be easy to put on and take off for shoe styles	3.50	Agreed
12.	have smooth soft seams after construction	3.00	Agreed
13.	have tiny buttons	2.00	Disagreed
14.	have large and medium buttons	3.80	Agreed
15.	have empire bust line	3.50	Agreed
16.	have buttons and zippers in front or sides	3.80	Agreed
17.	have buttons and zippers at the back	2.30	Disagreed
18.	have no waist line	3.50	Agreed
19.	hide my figure problems	4.00	Agreed
20.	have suitable content of allowance	3.20	Agreed

21.	have enough allowance at waist line to accommodate protruding abdomen and enlarge hips	3.20	Agreed
22	have soft and attractive colours	3.00	Agreed
23.	have front closures for bra	3.70	Agreed

Table 2 revealed that twenty out of the twenty three related views on styles/design features suitable for elderly women due to physiological changes were accepted by the respondents. However, three items were not accepted (nos. 3, 13 and 17) with mean scores below 2.5 cut off mark. Indicator/item nos. 1, 10 and 19 (my clothing should be simple, my shoes should be low with non- slip sole and styles of my garment should hide my figure problems recorded the highest mean score (4.00).

c) Problems elderly women encountered with readymade clothes

Table 3: Mean Response on Problems elderly women encountered with readymade clothes (N=360)

S/N	Problems elderly women encounter with readymade clothes	Mean	Remark
1.	Style of garment unsuitable for changed physique	4.00	Agreed
2.	Scarcity of ready to wear elderly garment	3.20	Agreed
3.	Need for special sizing	3.50	Agreed
4.	Some cultural attire are too heavy	3.18	Agreed
5.	Clothing items are not designed to meet real needs	3.75	Agreed
6.	Neckline of garment too low	3.00	Agreed
7.	Uninteresting colours of garment	3.00	Agreed
8.	Waistline of garment too low or too tight	3.00	Agreed
9.	Some garment lack the ability for independent dressing	3.20	Agreed
10.	Lack of basic block by designers for apparel production	3.65	Agreed

Table 3 revealed that all the items listed as problems encountered by elderly women with readymade clothes in Port Harcourt urban got mean scores above 2.5. This implies that elderly women in Port Harcourt urban encounter these problems with readymade clothes.

Discussion of Findings

The findings are discussed based on the research questions that guided this study. The study was conducted to determine the factors that influence clothing preferences of elderly women in Port Harcourt urban. The study indicated factors that influence clothing preference of elderly women in the area of study. The data also shows that all the factors listed on table 1 were accepted by the respondents with response above the cut off. This means that the respondents support the fact that comfort of the wearer, fit of clothing, ease of wear and ease of care, durability of clothing, quality of fabric and construction, function, beauty of clothing, price of the clothing, clothing in vogue, safety of wearer, among others are very important in clothing preference of the elderly. These findings are in line with the view of some authors cited in review of literature. Thomas &

Peters (2009) opined that elderly citizens desire comfort, fit, aesthetics, style, value / good price and function. Creusen (2010) noted that older people pay more attention to three types of functional aspect namely functionalities, ease of use and quality when selecting clothing. In the same vein, Twigg (2007) reported that clothing design featuring comfort, fit and up-to-date is preferred by senior citizens. Thiry, 2009 supported this by stating that the elderly are not willing to sacrifice comfort for fashion and that they also prefer protective clothing in extreme environmental condition. Guzel, 2013 also noted that elderly women consider functionality important and seam quality partially important. In the research made by Lee *et al*., (2012), it has been found that elder women are interested in the suitability with body, easy maintenance and low prices. Dress suitability is seen as an important matter in consumer satisfaction and dress quality in ready to wear garment. But since the definition of suitability depends on individual perceptions and it is determined by fashion, styles, and other factors, it is hard to identify a well adapted dress universally (Song and Ashdown, 2010). Tyagi and Alka (2013) reported that elderly women's clothes should be light in weight so that they are less tiring to wear and that clothing's should be warm to compensate for lowered activity, cold bloodedness and flexible enough for comfort in movement. He also added that soft fabrics and construction processes that do not irritate the skin should be used for elderly clothing and that in terms of safety, the safe choice is clothing that fits close to the body. The study revealed in Table 2 that the respondents agreed that clothing styles / designs of the elderly due to physiological changes should be simple, proportionate to their size, conservative, proportionate to their figure, warm and light weight to prevent fatigue in walking and working, have no waist line, have buttons and zippers in front or side, have medium or large buttons, styles should hide figure problems among others. This is in line with Twigg (2007) who pointed out that clothing choice in old age should reflect changes in the body and that these changes in the body should be incorporated into decisions about clothing styles /designs at an individual level since physiological changes can differentiate varieties of people by different rate of aging and different combinations. In the same vein, Civitci (2004) stated that the designing of clothing for the elderly requires attention to both bodily changes from aging in order to facilitate and raise the quality of life. Tyagi and Alka, (2013) reported that clothing for elderly women should be designed with their physical characteristics in mind. He suggested that in considering elderly women who have difficulty in reaching back to open or close buttons and zipper, garment that button down the front are a must. Larger openings are also easier to pull on and off and relatively low –heel slip-on shoes or shoes with hook and loop closures are more suitable for elderly women. Thus indicating that women's body image is likely to influence their clothing preferences. Findings on Table 3 with regards to problems elderly women encounter with readymade clothes include among others (a) clothing items not designed, to meet real needs, (b) styles of garment unsuitable for changed physique, (c) need for special sizing, (d) waistline of garment too low or too tight and (e) neckline too low. These problems are in line with the opinion of Civitci (2004), Smathers & Horridge (1979) who opined that readymade garment do not accommodate the clothing needs of elderly women and that readymade garment do not give room for changed physique of the elderly. Lee *et al*., (2012) reported that elderly women agreed that they find it difficult in finding clothing that fits their body shapes and styles that are appropriate for their ageing body. Guzel (2013) in his work noted that one of the major problems with elderly women is the conformity of dress to the body and its size. As the sizes, patterns and designs are generally prepared according to young and healthy people with normal body sizes.

Conclusion

The findings provide valuable insight into elderly clothing needs and allow a deeper understanding of their preference when choosing clothing items. These findings have implications for pattern graders/makers, clothing designers, and manufacturers. Elderly citizens are still interested in fashion and are looking for designers and styles that allow them to express their identity. Designers and manufacturers should explore strategies of developing clothing and accessories that flatter the older consumers changed physique, and incorporate latest fashion with proper interpretation for their generation as functionality are among the priorities for the elderly consumer. Designers and manufacturers should strive to provide maximized value through comfort, proper fit and materials as well as good workmanship.

Recommendations

Based on the findings, the follow recommendations were made

1. There is need for more research on elderly and clothing designs as the starting point of design for aging is researching and confirming the older users need
2. Designers should explore strategies of developing clothing and accessories that flatter the older consumers changed physique and incorporate the latest fashion with proper interpretation for their generations.
3. Designers should strive to provide maximized value through comfort, proper fit and materials as well as good workmanship.
4. Selected data from the body scan of typical elderly women can be made into basic blocks, tested and then used to develop style patterns.

References

American Textile Institute. (2003). Textile Highlights. Electronic version Retrieved November 2003 from http://www.atm.org.

Ashdow, S.P. (2003). Sizing up the Apparel Industry. *Cornell's Newsletter*

Arthur, K. (2003). Sizes gives us fit. *The Pantagraph*, May 18, pp. 1-4

Carrigan, M., Szmigin, I and Wright, F. (2004). Shopping for a better world: an interpretive study of the potential for ethical consumption within the older market. *The journal of consumer marketing*, 21 (6): 401 – 417.

Creusen, M. E. H. (2010). The importance of Product aspect in Choice: the Influence of Demographic Characteristics. *Journal of Consumer Marketing,* 27(1): 26-34.

Civitci, S. S. (2004). An Ergonic Garment Design for elderly Turkish Men. *Applied Ergonomic,* 35 (3): 243.

Dwivedi, B and Lunia, V.(2007). Effect of clothing on physical and mental well being of old aged women. *Asian Journal of Home Science*, 2 (1&2): 39 – 42.

Guzel, S. (2013). Clothes preferences and problems of consumer aged 65 and above. The *Macrotheme Review a Multidisciplinary Journal of Global Macro Trends*, 2 (5): 168 - 177.

Lee, Y., Damhorst, M., Lynn, L., Min-Sun, K., Joy, M., and Martin P. (2013). Older women clothing fit and style concerns and their attitudes towards the use of 3D body scanning. *Clothing and textiles Research Journal*, 30 (2): 102 -118.

Moody, H. R., and Sood, S. (2010) Age branding. In Drolet, A., Schwarz, N and Yoon, C (eds) *The ageing consumer, perspective from psychology and economics*. New York, Routledge, pp 229 -248

Ozipek, B., Tanyas, M and Mahmutoglu-Dinc, N. (2012). Factors affecting branding with special reference to clothing industry. International Conferences: Textiles and Fashion, Bangkok, Thailand.

Shailong, C.N and Igbo, C.A. (2009). Establishment of Average Body Measurement and Drafting of Basic Block Patterns for Male Preschool Children in Enugu State: *Journl of Home Economics Research*, 10, 86-94

Smathers, D. G. & Horridge, P. E. (1979). The Effect of Physical Changes on Clothing Preferences of Elderly Women. *International Journal of Aging and Human Development*; 9(3): 273 -278.

Solomon, M and Rabolt, N .(2004).*Consumer Behavior in Fashion*. Prentice Hall. Englewood Cliff.

Song, H. K and Ashdown, S. P. (2010). An exploratory study of the validity of visual fit assessment from three –dimensional scans. *Clothing and Textiles Research Journal*, 28 (4): 263 – 278.

The Church of Nigeria (Anglican Communion). (2013). Church year Calendar. Church of Nigeria Anglican Communion.

Thiry, M. C. (2009). The untapped Market, *AATCC Review* Vol. 9 issue 4, April 2009.

Thomas, J . B and Peters, C. (2009). Silver Seniors : Exploring the Self Concept, Life Styles and Apparel Consumption of Women over Age 65. *International Journal of Retail and Distribution Management,* 37(12): 1018 -1040.

Twigg, J . (2007). *Clothing, Age and the Body: A Critical Review*, United Kingdom, Cambridge University Press.

Twigg, J. and Majima, S. (2011). Consumption and the Constitution of Age Expenditure pattern on Clothing available online at clothing and age.org

Tyagi, I. and Alka, G. (2013). Factors affecting clothing choices of elderly females. *Indian Journal of Gerontology*, 27 (2), 307 -319.

Walsh, G., Mitchell, V. W and Thuran, T. H.(2001). German consumer decision-making styles. *The Journal of Consumer Affairs,* 35, 73 – 96.

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Attitude of Workers Towards Ageing and the Elderly: Case Study of Employees of University of Nigeria Nsukka

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Abstract

The study was embarked upon to determine the attitude of workers towards ageing and the elderly: case study of employees of University of Nigeria Nsukka. Four specific objectives with four corresponding research questions, and two null hypotheses guided the study. It adopted the descriptive survey research design. The population for the study consisted of 6,342 workers in UNN. The sample was 205 workers. Questionnaire was used for data collection. Mean and t-test were used for data analysis. Results of the study among others indicate that employees of UNN had positive attitudes towards ageing process and the elderly, male workers had more positive attitude than their female counterparts towards ageing process, while female workers demonstrated more positive attitude towards the elderly. Gender had significant influence on attitude of workers in UNN towards ageing process, and had no significant influence on attitude of workers towards the elderly. Based on the findings, recommendations were made among which is that Universities, Government and Non-Governmental organizations (NGOs) should organize periodic seminars, workshops and campaigns to sensitize the workers especially the civil servants about the inevitable natural phenomenon of ageing to enable them develop positive attitude.

Key words: Attitude, Workers, Ageing, Elderly, Process

Introduction

Ageing is a natural phenomenon that every individual across the globe has to face within the incessant years of their lives. Ageing starts at birth and ends at death, encompassing physical, social, psychological, and spiritual changes. These changes can be influenced by genetic, environmental, and lifestyle factors (Harman, 2001). Igbo (2009) defined ageing as the physical, mental, and social changes that occur as people move through life stages. It occurs to everyone at different rates (Insel and Roth, 2004). This is the reason why some people appear older than their chronological age, while some appear younger than their chronological age.

As the society continues to evolve in a more differentiated place to live in, people undergo the same place of changing as signs of physical and physiological growth which is known as the ageing process of ageing (Valdez, Angeles, Pareja-Corpuz, and Hernandez, 2013). It is common for most adults to hide their ages or deny the fact that they are already ageing. Any denial is a negative response in looking at the process of ageing.

As ageing advances, the likelihood of developing health problems and chronic diseases increases, and the demand for health care resources escalates. This impacts hospitals and long-term care facilities, including home care to the elderly (Lovell, 2006). The elderly persons are people who have experienced changes in social role and capabilities, and are sixty years old and beyond (World Health Organization-WHO, 2014). They further revealed that most developed countries have accepted the chronological age of 65 years as a definition of elderly while this age does not adapt well to situations in Africa.

Many myths or false beliefs exist regarding the elderly. Examples include the belief that most elderly people are cared for in long-term care facilities; incompetent and incapable of making decisions; they live in poverty, do not want to work, and are unhappy and lonely (Simmers, 1998). Although these beliefs may be true for some elderly individuals, they are not true for the majority. Isidore and Obi-Kegana (2004); and Horton, Baker, Pearce, and Deakin (2010) disclosed that in most developed societies, elderly people are not highly regarded; many are often subjected to stereotyping, and made to occupy a minority group, while in some societies, the elderly are the wisest people, accorded more respect and honour irrespective of changes taking place in them. The average health of older adults decline with age, usually more steeply near the time of death (Dier, Thielke, Newman, Hirsch, and Tracy, 2013).

Physical changes occur in all individuals as a normal part of the ageing process. Hence, it is crucial to note that most of the changes are gradual and occur over a long period of time. The physical changes may impose some limitations on the activities of the elderly. The physical and psychological changes that are associated with ageing include slowing down of body processes, skin becoming less elastic and dry, decreased mobility and weakness of bones and muscles of the trunk and legs due to osteoporosis, memory loss, decrease in auditory and visual activity, reduction of energy, loss of appetite, lack of concentration, multiple diseases among others (Gotlib and Nolan, 2001; Leenders, Verdijk, Hoeven, Kranenburg, Nilwik, and Loon, 2013);). Chronic pain such as back pain and arthritis are debilitating disorders that affect up to half of all aged persons (Parker, Jessel, Richardson, and Reid, 2013).

Meeting the needs of the aged is essential for their health. Simmers (1998) stated that some of the needs of the elderly include proper diet rich in protein; calcium and vitamins; safe environment, moderate exercises; good hygiene such as daily baths, skin, nail, and hair care; decreased sun exposure; adequate sleep and rest; periodic medical check up and treatment of sores and injuries; protection from cold; suitable housing; interaction with people, special counseling among others. However, some elderly individuals feel a major sense of loss upon retirement, which is viewed as an end to the working years. Retirement is an inevitable stage when the individual disengages from the mainstream of active work and social life (Mole and Dim, 2010). The authors further observed that most retirees suffer from loss of steady income, lack of satisfying job after retirement, reduction in status and social identity, poor health condition and lack of commitment on the part of the government to the payment of gratuities and pensions of retirees. This often causes them to experience stress, and consequently become depressed and develop negative attitude about self.

Attitude is a predisposition to act in a certain way towards some aspect of one's environment including other people, object and events. Ademuwagun, Ajala, Oke, Moronkola and Jegede (2002) defined attitude as a set of affective reactions towards an object that predisposes the individual to behave in a certain manner towards the object. In the context of this study, attitude refers to reactions of workers in UNN towards ageing process and the elderly. Attitude can be positive or negative, and can affect the behaviour of an individual. Some people perceive ageing as a stage to enjoy, while some others view it as a threat to prestige, purpose and self respect, and less valued role (Igbo, 2009; Balami,Vurho, and Ojobo, 2012). Positive attitude to the aged is very essential to graceful ageing. Such attitude should include love towards the aged who have contributed so much to the society. The aged should be shown respect, cared for, appreciated, not stereotyped or isolated among others. People should understand that ageing occurs to everyone at different rates as indicated by Insel and Roth (2004). Ageing should not be subjected to something that makes one to become incompetent and incapable of making decision, having low esteem, recurrent of thoughts of deaths, and being skeptical upon retirement among others.

Taylor and Walker (1993) reported that women have more positive attitude towards ageing than men. This report could be attributed to the fact that women tend to live through old age more than men. Adults who consider themselves as experienced, wise and at higher level of the society are the people who look at ageing in a positive and healthy way, while adults who see themselves as useless, weak, socially unaccepted and dying are the ones who perceive ageing negatively (Schoemann and Branscombe, 2011).

Due to rigorous process of ageing, some elderly people become inactive in most life process. The elderly are often perceived as tired, disorientated, unhappy and lonely people. Regrettably, in the contemporary society, many elderly individuals are rejected and treated as worthless cohorts. Some people seem to be ignorant, and have unfavourable attitude towards ageing and the elderly. Having observed the way the elderly are treated and how the society view ageing process, the researchers embarked on this study which sought to determine the attitude of workers in University of Nigeria, Nsukka (UNN) towards ageing and the elderly.

Objectives of the Study

The purpose of the study was to determine the attitude of workers towards ageing and the elderly: case study of employees of UNN. Specifically, the study determined the attitude of employees of UNN towards the following:

1. ageing process;
2. the elderly;
3. ageing process based on gender; and
4. the elderly based on gender.

Research Questions

Four research questions were posed to guide the study.

1. What is the attitude of workers in UNN towards ageing process?
2. What is the attitude of workers in UNN towards the elderly?
3. What is the attitude of workers in UNN towards ageing process based on gender?
4. What is the attitude of workers in UNN towards the elderly based on gender?

Hypotheses

Two null hypotheses were postulated and tested at .05 level of significance.

HO_1) There is no significant difference in the mean attitudes of male and female workers in UNN towards ageing process.

HO_2) There is no significant difference in the mean attitudes of male and female workers in UNN towards the elderly.

Methodology

Design of the Study**:** The study adopted the descriptive survey design.

Area of the Study**:** The study was conducted in Enugu State.

Population for the Study**:** The population for the study consisted of 6,342 employees of UNN. The estimated population of academic staff is 2,351, and that of administrative staff is 3,991. The institution has about 3,049 female employees and 3,293 male employees with various academic qualifications. There are academic and administrative staff in the all the departments, faculties, and centres.

Sample for the Study**:** The sample for the study consisted of 205 working academic and administrative staff (114 males and 91 females). Proportionate stratified random sampling technique was used to select forty one (41) workers from each of the 15 faculties, registry department, 103 departments, 8 institutes, and the centres. This gave a total of 205 male and female workers used for the study.

Instrument for Data Collection**:** The instrument for data collection was a close ended 14-item questionnaire. The questionnaire was face-validated by three experts from the Department of Health and Physical Education, University of Nigeria, Nsukka. The experts' suggestions were incorporated in the final draft of the questionnaire. A split half method using the Spearman's Brown correlation formular was used to correlate the data generated. The reliability index of .81 was obtained, and adjudged reliable for embarking on the study. In the questionnaire, respondents were asked to rate each of the items on a four-point scale as follows: Strongly Agree 4, Agree 3, Disagree 2, and Strongly Disagree 1.

Data Collection Technique: a total of 205 copies of the instrument were administered by hand. Out of the 205 copies of the questionnaire administered, only 191 were properly completed and were used for analysis.

Data Analysis Technique**:** The responses were analysed using means and t-test. A mean score below 2.50 indicated negative attitude, while a mean score of 2.50 and above indicated positive attitude. Mean was used to answer the research questions, while t-test statistic was used to test the null hypotheses at .05 level of significance.

Results

Table 1: **Mean Ratings of the Attitude Indicators of Employees of UNN towards Ageing (n=191)**

S/N	Attitude indicators of employees	$\overline{X}$	SD	Decision
1.	Ageing makes one become incompetent and incapable of making decision.	2.82	.42	Positive
2.	Ageing is accompanied with low self-esteem and Withdrawal.	2.21	.31	Negative
3.	Ageing is accompanied with physical and psychological changes which create special needs in the aged.	3.54	.68	Positive
4.	Ageing is often accompanied with periods of confusion and disorientation	3.12	.59	Positive
5.	Ageing is often accompanied with recurrent thoughts of death	2.08	.26	Negative
6.	Each time I remember that am approaching retirement age, I become skeptical	3.06	.57	Positive
	Grand mean	**2.81**	**.47**	**Positive**

* $\overline{X}$ =Mean, SD=Standard Deviation

Table 1 shows that employees of UNN had a positive attitude towards ageing process as indicated by a grand mean of 2.81, which is above the criterion mean of 2.50. The Table further reveals that the mean scores of the items were above the criterion mean of 2.50 and were regarded to be positive attitudes except for ageing is accompanied with low self-esteem and withdrawal ($\overline{X}$=2.21), and ageing is often accompanied with recurrent thoughts of death ($\overline{X}$=2.08) which were negative attitudes.

Table 2: **Mean Ratings of the Attitude Indicators of Employees of UNN towards the Elderly (n=191)**.

S/N	Attitude indicators of employees	$\overline{X}$	SD	Decision
1.	Most elderly people are cared for in long-term care facilities	2.17	.29	Negative
2.	The elderly are not respected and regarded in the society	2.24	.37	Negative
3.	Majority of the aged are socially isolated and stereotyped	3.26	.37	Positive
4.	The elderly are more prone to diseases and disability	3.02	.51	Positive
5.	The elderly are unhappy and lonely	2.89	.44	Positive
6.	The elderly are socially alienated and physically impaired	2.90	. 46	Positive
7.	The elderly perform poorly in task accomplishment that younger ones	3.35	.63	Positive
8.	The elderly live in poverty	2.30	.39	Negative
	Grand mean	**2.77**	**.43**	**Positive**

Table 2 shows that employees of UNN had a positive attitude towards the elderly as indicated by a grand mean of 2.77, which is above the criterion mean of 2.50. The Table further reveals that the mean scores of the items were above the criterion mean of 2.50 and were regarded to be positive attitudes except for the elderly live in poverty ($\overline{X}$=2.30), the elderly are not respected and regarded in the society ($\overline{X}$=2.24), and most elderly people are cared for in long-term care facilities ($\overline{X}$=2.17) which were negative attitudes.

Table 3: Mean Ratings of the Attitude Indicators of Employees of UNN towards Ageing Process based on Gender (n=191)

S/N	Attitude indicators of employees	Male (n=106) $\overline{X}$	SD	D	Female (n=85) $\overline{X}$	SD	D
1.	Ageing makes one become incompetent and incapable of making decision.	3.02	.42	P	2.62	.39	P
2.	Ageing is accompanied with low self esteem and withdrawal.	2.25	.27	N	2.17	.23	N
3.	Ageing is accompanied with physical and psychological changes which create special needs in the aged.	3.74	.47	P	3.34	.48	P
4.	Ageing is often accompanied with periods of confusion and disorientation	3.31	.43	P	2.93	.37	P
5.	Ageing is often accompanied with recurrent thoughts of death	2.17	.21	N	1.99	.28	N
6.	Each time I remember that am approaching retirement age, I become skeptical	3.00	.40	P	3.12	.41	P
	Grand mean	**2.92**	**.37**	**P**	**2.70**	**.36**	**P**

*D=Decision, P=Positive, N=Negative, $\overline{X}$ = mean, SD= Standard Deviation

Table 3 shows that male and female employees of UNN demonstrated positive attitude towards ageing process as indicated by a grand mean of 2.92 for males and 2.70 for females. The Table also revealed that male employees of UNN had more positive attitude than their female counterparts. Furthermore, the Table revealed that both male and female employees demonstrated negative attitude in the items ageing is accompanied with low self-esteem and withdrawal (male $\overline{X}$ = 2.25, female $\overline{X}$ = 2.17), and ageing is often accompanied with recurrent thoughts of death (male $\overline{X}$ = 2.17, female $\overline{X}$ = 1.99).

Table 4: Mean Ratings of the Attitude Indicators of Employees of UNN towards the Elderly based on Gender (n=191)

S/N	Attitude indicators of employees	Male (n=106) $\bar{X}$	SD	D	Female (n=85) $\bar{X}$	SD	D
1.	Most elderly people are cared for in long-term care facilities	2.43	.31	N	1.91	.21	N
2.	The elderly are not respected and regarded in the society	1.24	.15	N	3.24	.45	P
3.	Majority of the Elderly are socially isolated and stereotyped	2.26	.32	N	4.26	.85	P
4.	The elderly are more prone to diseases and disability	2.74	.38	P	3.30	.51	P
5.	The elderly are unhappy and lonely	3.78	.54	P	2.00	.18	N
6.	The elderly are socially alienated and physically impaired	2.21	.23	N	3.59	.57	P
7.	The elderly perform poorly in task accomplishment than the younger ones	2.98	.39	P	3.72	.69	P
8.	The elderly live in poverty	1.70	.20	N	2.90	.50	P
	Grand mean	**2.42**	**.32**	**N**	**3.12**	**.50**	**P**

Table 4 indicates that female employees of UNN ($\bar{X}$ = 3.12) demonstrated positive attitude towards the elderly, while the male workers ($\bar{X}$ = 2.42) demonstrated negative attitude towards the elderly. The Table further revealed that both male and female employees demonstrated negative attitude in the item most elderly people are cared for in long-term care facilities (male $\bar{X}$ = 2.43 > female $\bar{X}$ = 1.91).

Table 5: t-test Analysis of the Difference in the Attitude of Employees of UNN Towards Ageing Process Based on Gender

Gender	$\bar{X}$	SD	n	t-cal	df	t-crit.	Sig	Decision
Male	2.92	0.132	106					
Female	2.70	0.140	85	4.091	189	1.960	.05	Rejected

Table 5 shows that the calculated value of t (4.091) was greater than the critical value of t (1.960) at .05 level of significance and 189 degree of freedom. Since the calculated value was greater than the critical value, the null hypothesis of no significant difference in the attitude of employees of UNN towards ageing process was rejected. This indicated that there was significant difference in the attitude of employees of UNN towards ageing process based on gender.

Table 6: t-test Analysis of the Difference in the Attitude of Employees of UNN Towards the Elderly Based on Gender

Gender	$\bar{X}$	SD	n	t-cal	df	t-crit.	Sig	Decision
Male	2.42	0.201	106					
Female	3.12	0.235	85	-10.25	189	1.960	.05	Accepted

Table 6 shows that the calculated value of t (-10.25) was less than the critical value of t (1.960) at .05 level of significance and 189 degree of freedom. Since the calculated value was less than the critical value, the null hypothesis of no significant difference in the attitude of employees of UNN towards the elderly was accepted. This indicated that there was no significant difference in the attitude of employees of UNN towards the elderly based on gender.

Discussion

The findings of the study in Table 1 show that the attitude of workers in UNN towards ageing process was positive with a grand mean of 2.81. These finding were expected and not surprising, because the workers concerned are in the academic environment, and therefore are exposed or enlightened about positive disposition towards ageing process. Most people have already formed unfavourable attitudes about ageing process. This may be from their culture, personal beliefs, values, or influence of the media. The findings on ageing makes one become incompetent and incapable of making decisions, and the elderly are unhappy and lonely contradicts the many myths existing regarding the elderly as noted by Simmers (1998). The findings are also in line with the assertions of: Gotlib and Nolan (2001) who asserted that the physical and psychological changes that are associated with ageing include changes in health such as slowing down of body processes, skin becoming less elastic and dry, decreased mobility and weakness of bones and muscles of the trunk and legs such as osteoporosis, memory loss, decrease in auditory and visual activity, reduction of energy, loss of appetite, lack of concentration, multiple diseases among others; and Leenders, Verdijk, Hoeven, Kranenburg, Nilwik, and Loon (2013) who asserted that ageing is accompanied by the progressive loss of muscle mass and muscle strength. Since ageing process is accompanied with physical and psychological changes, it is important for caregivers and the society to understand that ageing is life long process which is inevitable. The physical changes may impose some limitations on the activities of the individuals undergoing ageing process.

The findings of the study in revealed that the attitude of workers in UNN towards the elderly was positive with a grand mean of 2.77. These finding were expected and not surprising. The findings disagrees with the assertion of Dier, Thielke, Newman, Hirsch, and Tracy (2013) that the average health of older adults declines with age, usually more steeply near the time of death. The finding on the elderly are not respected and regarded in the society conforms to the affirmations of Igbo (2009),and Balami,Vurho, and Ojobo (2012) that some people perceive old age as a stage to enjoy, while some others view it as a threat to prestige, purpose and self respect, and less valued role. The finding that majority of the elderly are socially isolated and stereotyped disagrees with the revelations of Isidore and Obi-Kegana (2004) and Horton, Baker, Pearce, and Deakin (2010) who revealed that in most developed societies, elderly people are not highly regarded; many are often subjected to stereotyping, and made to occupy a minority group, while in some societies, the elderly are the wisest people, accorded more respect and honour irrespective of changes taking place in them. People in many walks of life require information on the elderly population to successfully carry out business in the future. Since psychological changes create special needs in the elderly, with support, understanding and patience, health care workers and caregivers can assist the aged as they learn to accommodate the changes and to function in new situations.

The findings of the study show that male and female workers in UNN demonstrated positive attitude towards ageing process. The results indicated that male workers had more positive attitude ($\overline{X}$=2.92) than their female counterpart ($\overline{X}$=2.70). These findings were expected and not surprising, thus was not in agreement with the finding of Taylor and Walker (1993) that women have more positive attitude towards ageing process than men. The findings of the study further show that female workers in UNN ($\overline{X}$=3.12) demonstrated positive attitude towards the elderly, while male workers ($\overline{X}$=2.42) demonstrated negative attitude towards the elderly. These findings were unexpected and surprising, because male workers whose attitudes towards ageing process were positive should equally be positive towards the elderly. This could be attributed to the fact that women tend to live through old age more than men.

The summary of t-test analysis indicates that there was significant difference in the attitude of workers in UNN towards ageing process based on gender. Therefore, the null hypothesis of no significant difference in the attitude of workers in UNN towards ageing process was rejected. The summary of t-test analysis also indicates that there was no significant difference in the attitude of workers in UNN towards the elderly based on gender. Therefore, the null hypothesis of no significant difference in the attitude of workers in UNN towards the elderly was accepted. This could be attributed to the fact that male and female staff in UNN have similar exposure to the basic facts and myths about the elderly in the academic environment.

Conclusion

The findings have shown that workers in UNN have positive attitude towards ageing process and the elderly. Male and female workers in UNN had positive attitudes towards ageing and the elderly, but male workers had more positive attitude than female workers. Female workers had positive attitude towards the elderly while male workers had negative attitude towards the elderly. The null hypothesis was rejected for no significant difference in the attitude of workers in UNN towards ageing process, and was accepted for the attitude of workers towards the elderly. These findings have shown that workers in UNN have similar exposure to the basic facts and myths about ageing process and the elderly because they operate in the academic premises. Equally, workers and the society in general need to be provided with accurate information about the elderly and ageing process.

Recommendations

Based on these findings, the following recommendations were made:

1. Universities, Government and Non-Governmental organizations (NGOs) should organize periodic seminars, workshops and campaigns to sensitize the workers especially the civil servants about the inevitable natural

phenomenon of ageing to enable them develop positive attitude.

2. Government in collaboration with health care providers should ensure that there is even distribution of health care workers and health care facilities at both rural and urban settings, so as to provide the elderly lifelong sustaining specific needs and support. This will foster meeting the cultural and religious needs of the elderly as well as respecting, following their rights, and protecting them from abuse.
3. People working at the retiree units should encourage the elderly by attending to them satisfactorily, rather than subjecting them to long queue and waiting that have effect on their poor health state and financial adjustment in their homes. Also continuous interaction among healthy aged people and public servants should be enhanced.
4. Conferences should be organized on regular bases for retirees, prospective retirees and all public servants to educate them about ageing process and care for the aged.

References

Ademuwagun, Z.A., Ajala, I.A., Oke, E.A., Moronkola, A.A., & Jegede, A.S. (2002). Health education and health promotion. Ibadan: Royal People Nigerian Limited.

Balami, A., Vurho, J.Z., & Ojobo, O.H. (2012). Ageing gracefully: The role of exercise programme. International Journal of Educational Research, 11 (1), 12-16.

Dier, P.H., Thielke, S.M., Newman, A.B., Hirsch, C., & Tracy, R. (2013). Decline in health for older adults: Five-year change in 13 key measures of standardized health. J Gerontol A Biol Sci Med Sci, 68 (9), 1059-1067.

Gotlib, I.H., & Nolan, S.A. (2001). Depression. In A.S. Bellack & M. Hersen (eds.). Psychopathology in adulthood (2nd ed.). Boston: Allyn & Bacon.

Harman, D. (2001). Aging overview. *Ann N Y Acad Sci, 928, 1-21.*

Horton, S., Baker, J., Pearce, W., & Deakin, J.M. (2010). Immunity to popular stereotypes of aging! Seniors and stereotype threat. *Educational Gerontology, 36, 353-371.*

Igbo, J.N. (2009). Psychological factors awareness and ageing among elderly people in Enugu State. *International Journal of Educational Research, 9 (2), 99-106.*

Insel, R.M., & Roth, W.T. (2004). *Core concept of health.* New York: Mc Graw-Hill.

Isidore & Obi-Kegana (2004). *African psychology*. Nsukka: Grout AP Express Publishers.

Leenders, M., Verdijk, L.B., Hoeven, L.V., Kranenburg, J.V., Nilwik, R., & Loon, L. J. C. (2013). Elderly men and women benefit equally from prolonged resistance-type exercise training. *J Gerontol A Biol Sci Med Sci, 68 (7), 769-779.*

Lovell, M. (2006). Caring for the elderly: Changing perceptions and attitudes. *Journal of Vascular Nursing, 24 (1), 22-26.* Retrieved from http://www.sciencedirect.com.

Mole, A.J.C., & Dim, C.L. (2010). Repositioning entrepreneurship and retirement education: The strategic place of library information. *International Journal of Educational Research, 10 (2), 89 – 94.*

Parker, S.J., Jessel, S., Richardson, J.E., & Reid, M. C. (2013). Older adults are mobile too! Identifying the barriers and facilitators to older adults use of Health for pain management. *Geriatrics, 13, 43. http://www.biomedcentral.com/1471-2318/13/43.*

Schoemann, A.M., & Branscombe, N.R. (2011). Looking young for your age: Perceptions of anti-aging actions. *European Journal of Social Psychology, 41 (1), 86-95. http://dx.doi.org/10.1002/ejsp.738.*

Simmers, L. (1998). *Diversified health occupations (4th ed.)*. Mansfield, Ohio: Delmar Publishers.

Taylor, P., & Walker, A. (1993). Employers and Older Workers. *Employment Gazette, 101, 371-378.*

Valdez, J.P.M., Angeles, J.L., pareja-Corpuz, E., & Hernandez, C.P. (2013). Perceptions toward aging among selected Filipino adults. *International Journal of Research Studies in Psychology, 2243-769.doi:5861/ijrsp.2013.458.*

WHO (2014). *Definition of an older or elderly person.* Retrieved from http://www.who.int/healthinfo/survey.

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Clothing References of Undergraduate Students and the Consequences: Case Study of Ebonyi State University, Abakaliki

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Abstract

This study focused on the clothing preferences of students of Ebonyi State University, and the related consequences. Three research questions guided the study. A survey was used. The population for the study was 33491 students of 2011/2012 academic session. A sample of 400 was selected. Findings include that males prefer tight clothing that sag such as tight sagging trousers, pencil jean and earrings while female prefer body revealing clothing such as spaghetti sleeves, high heeled shoes, tight tubular trouser among others. Consequences include, among others, prostitution, sexual harassment, premature death. It is recommended among others, that Deans of various faculties in Ebonyi State University should approve a standard set of clothing styles for students with appropriate consequences for violation.

Key words: Clothing, Preferences, Students, Consequence, Case Study.

Introduction

Clothing is anything used to cover the body from nakedness' Johnson and Foster (1990) stated that clothing is anything places on the body to adorn, protect and communicate intent. Clothing appear to control the psyche and general attitude of individual to life. Gililan (2010) opined that clothing is informative and tells the kind of a person individual is. Nwadi and Anyakoha (2011) noted that clothing and accessories such as shoes, bags among others constitute visual communication which gives varied impressions about the wearer.

Clothing according to Kaka and Agwa (2008) is very important in the personal appearance of an individual. Clothing communicates culture and personality of individual. Ozougwu and Anyakoha (2005) opined that clothing communicates characteristics of individuals such as individuals' personality, attitude, temperament, trustworthiness among others. According to Esiowu and Igbo (2008), there are various styles of clothes and numerous accessories that go with them. Clothes include Skirts, blouse, gowns, shirts, trousers among others. Accessories are shoes, handbags earrings, bangles, finger rings, hairstyles, and necklace. Hence clothing are used for adornment, identification of traditional, social and occupational status. Kaka and Agwa (2008) also stated that clothing play role of communication by expressing the individual unique personalities for modesty, attraction, social status and identification of roles in the society. Kelven (2003) opined that clothing talk about the wearer and give other people clues about values and how individuals should be treated. Hadden (2010) noted that clothing contribute to establishing and maintaining identification with social role, information of self-image and sense of self-esteem. Students should therefore choose clothing styles to express their integrity in the society. The dress code of student should reflect their personality, religion, culture and distinguish the professions the students are studying.

Students in higher institutions are often very conscious of their physical appearance. Students spend reasonable amount of money and time on clothing. The self-concept of both male and female students depends largely on how attractive their clothing styles appear.

It is amazing and difficult to understand why most of the students dress the way they do. Most students in the area of study are not ready to blend tradition with modernity rather they become fashion freaks. The modern provocative dressings have become the priority of dress code among students. Such students may look slutty and hazardous to the public, fellow students and even to the lecturers. The increase in rape in the country is as a result of indecent dressing among students (Ezugwu 2013). Wrongful and improper dressings of students in tertiary institutions have a high tendency of negative impact on their academic performance. Afamara (2012) noted that students in higher institution wear clothing which distract both students and lecturers during lecture. This phenomenon is not uncommon in Ebonyi State University Abakaliki. Moreover, students in the area of study spend a lot of money on their outfit in expense of their studies. The study was therefore, undertaken to study the type of clothing styles students of Ebonyi State University wear and the consequence of the clothing on the students. The study will reveal to the students, school authority and the entire society the consequences of students' manner of clothing styles. This may subsequently lead the University authority to take necessary steps to check clothing style of students in Ebonyi State University, Abakaliki. Yahay (2013) stated that school authority has vital role to encourage students to dress modestly. Gbadegbe and Quashies (2013) also noted that government policies and humanitarian activities of non-governmental organization could help in the effective control and modernization of today's students' wears.

Purpose of the Study

The main purpose of the study was to investigate the clothing preferences of students of Ebonyi State University and the consequences specifically, the study sought to determined;

1. Clothing preferences of male students in Ebonyi State University.
2. Clothing preferences of female students in the area of study.
3. The Perceived consequences of the clothing preferences of the students.

Research Questions: The study sought answers to the following Research Questions;

1. What are the clothing preferences of male students in Ebonyi State University?
2. What are the clothing preferences of female students in Ebonyi State University?
3. What are the perceived consequence of the clothing preferences on the students?

Methodology

Area of the Study: The study was conducted in Ebonyi Sate University Abakaliki. The University has four campuses (college of Agricultural School (CAS), Permanent Site, Ishieke and Presco.

Design of the study: The design of the study was descriptive survey design. This type of design was used because the finding from these data are expected to be generalized to the entire population using appropriate sampling technique to ensure that resultant sample is sufficiently representative of the population.

Population for the Study: The population for the study consisted of all the students in Ebonyi State University, Abakaliki. The Population is made up of 33491 students of 2011/2012 academic session. This information is obtained from Planning Unit office, Ebonyi State University Abakaliki.

Sample and Sampling Techniques: Four hundred students where selected from the population. Convenience sampling technique was used to select fifty (50) male and fifty (50) female students from each of the four campuses in the area of study.

Instrument for Date Collection: The instrument used for data collection was structured questionnaires. The questionnaire was developed based on the specific purposes of the study and research questions. The instrument was validated by three experts, one expert in Home Economics Department, one in Technology and Vocational Education and one expert in Education Foundation Department, all in Ebonyi State University, Abakaliki.

Method of Data Collection and Analysis: Four hundred copies of questionnaire were administered by hand to the students. Two hundred questionnaires where administered to male and female students respectively assistants on the respondents. Hundred and eighty (380) copies of questionnaire were properly filled and returned. This represents 95 percent return of the questionnaire. Data collected were analyzed using means. Based on 4 point scale of strongly agree (SA) agree (a), disagree (d) and strongly disagree(SD) with value of 4,3,2, and 1 respectively, a mean rating of 2.50 and above was regarded as accepted while any item with a mean rating below 2.5 was regarded as unaccepted.

Findings

1. Male students in Ebonyi State University wear among others parts with open chest tops, sags trousers.
2. Female students in the area of study wear mini skirts, short tight knickers, high heeled shoes, bold and long earrings among other.
3. The perceived consequences from males, females, lectures and administrators of the clothing styles on the students include pre-marital sex and pregnancy, sexual harassment such as rape, roguery, prostitution among others.

Research Questions 1: What are the clothing preferences of male students in Ebonyi State University?

Table 1: Mean responses of the clothing preferences of male students. (N=400)

S/N Male students clothing styles include	$\bar{x}$	Remarks
1. Jean trouser with long sleeve shirts.	3.5	Preferred
2. Pant trousers with open chest vest.	3.00	Preferred
3. Three quarter trouser with body fitting shirts	2.54	Preferred
4. Baggy trousers with short sleeve shirt.	2.52	Preferred
5. Plain trouser with body hung tops.	2.55	Preferred
6. Pencil jean trouser with t-shirts	2.51	Preferred
7. Suit trouser.	1.8	Not preferred
8. Jerry curl hair.	2.56	Preferred
9. Earrings and jewelry.	2.84	Preferred
10. Various trimmed hairstyles.	2.68	Preferred
11. Baggy jean trousers with open-chest shirts	3.21	Preferred
12. Saggy trousers.	3.24	Preferred
13. Tofa made with Nigeria cotton wax	1.91	Not preferred
14. Sweat shirt.	1.85	Not preferred
15. Suttan style clothes.	2.25	Not preferred
16. Safari suit style.	1.95	Not preferred
17. Senator suits style.	2.22	Not Preferred

Table 1 showed that male students wear jean trousers with long sleeve skirts, pants trousers with open chest vest, three quarter trousers with body fitting shirts, earrings and jewelry, coiled hair, saggy trousers and baggy, jean trouser with shirts that expose their chest. The table also showed that the students do not wear suit trousers, tofa style, safari and senator styles.

Research Question 2: What are the clothing styles of female students in Ebonyi State University.

Table 2: Mean responses on the clothing styles of female students. (N-400)

S/N Female students' clothing styles include	$\bar{x}$	Remarks
1. Long skirt with long sleeve blouse.	2.41	No preferred
2. Mini skirt with tiny sleeve blouse.	3.32	Preferred
3. Short tight nicker with low neck blouse.	3.00	Preferred
4. Knee length skirt with raglan blouse.	2.65	Preferred
5. Skirt suit.	2.32	Not Preferred
6. Tight tubler trouser.	3.41	Preferred
7. Saggy trouser with short fitted blouse.	3.58	Preferred
8. Full trouser with long sleeve blouse	2.41	Not Preferred
9. Gathered gown and skirt.	1.52	Not Preferred
10. Loose fitting gown.	1.83	Not Preferred
11. Skin tight short blouse with legging trouser.	3.12	Preferred
12. High heeled shoes.	3.25	Preferred
13. Bold and long earrings.	3.42	Preferred
14. Long coloured weavon attachment.	2.81	Preferred
15. Four gore skirt with long sleeve top.	1.56	Not Preferred
16. Transparent and fishnet clothing.	3.01	Preferred

Table 2 shows that female students wear mini-shirts, short tight nicker, tight blouse with legging trousers, high-healed shoes, bold and long, coloured weavon attachment. The table further revealed that the female students do not wear long skirt with long sleeve, gathered gown and skirt, full trouser, skirt suit, loose fitting gown and four gore skirts.

Research question 3: what are the consequences of the clothing styles on the students.

Table3: Mean responses of the students on the perceived consequences of males and females students, lecturers administrators of the clothing preferences on the students. (N= 400)

S/N	Item statement: The students may be involved in;	$\bar{x}$	Remarks
1	Pre-marital sex and pregnancy.	2.75	Consequence
2.	Sexual harassment such as rape.	2.85	Consequence
3.	And consequent explosion of HIV/AIDS	2.52	Consequence
4.	Exposes students to pre-mature death such as ritual killing.	3.31	Consequence
5.	Lying to their parents and guardians	2.91	Consequence
6.	Roguery and prostitution.	2.61	Consequence
7.	Lack of concentration during lecture.	3.41	Consequence

Table 3 shows that students are influenced by the six identified consequence of clothing styles among the students. The mean value of all the six items on the consequences of clothing styles on the students are above 2.5 bench mark set out for the study.

Discussion of the Findings

The findings in Table I reveals the clothing styles of male students in Ebonyi State University. It indicated that male students wear pant trouser with vest that show their chest, wear earrings and jewelry. This finding disagrees with Ojija (2012) suggested that low necked shirt and earrings are indecent wears for males. He maintained that clothing style that exposes the body, attracts and induces opposite sex to sexual immorality and that such clothing styles are unacceptable in the school environment. The findings also revealed that male students wear baggy trousers, sag tight fitting trousers and curl their hair. This finding disagrees with Ron (2012) who noted that sagged trousers and tight fitting dresses that reveal contour of the body are not only seductive but rebellion to the society. Omede (2011) also noted that males will neither perm, plait nor curl their hair while in school. The findings thus revealed that both male and female students in the area of study dress indecently.

The findings in Table 2 reveals the clothing styles of female students in Ebonyi state University, Abakaliki. The findings showed that the students wear mini skirts with tiny sleeve blouse, and tight beach wear. This finding agrees with Egwim (2010) who noted that body hugs, mini skirt and tight trousers are common wears among Nigerian Students. Egwim also maintained that clothes that reveal sensitive part of the body such as bust, belly and buttocks are indecent dress in the society. The finding also agrees with Omede (2011) who stated that students wear short knickers, excessive lipsticks, nail attachments and Rastafarian hairstyles to lectures. The finding portrayed that female students in the area of study wear high-heeled shoes, sag trousers, transparent and fishnet clothes. Gbadegbe and Quashie (2013) stated that students wear skimpy skirts only about one inch longer than their pants to lectures. Oreri (2013) also maintained that female students in high institutions wear transparent fishnet clothing which exposes their thighs and other vital part of the body for lecturers and students' view.

Ron (2012) stated that transparent clothes are unacceptable attire for all professionals: Ron further stated that skirt length that is more than two inches above the knee is not allowed in school premises. One earring from the same pair in each ear may be enough for female student (Ron 2012).Hadden (2010) stated that one pierce per ear for earrings is enough for students' grooming. Other accessories such as jewelry, bangle, shoes and hair-style according to Hadden (2010) must be simple and neat. These immoral acts of indecent dressing by students in the area of study have influenced the students in many ways.

The findings in table 3 revealed some consequences of clothing styles on students in Ebonyi State University. The finding indicated that the student involve in premarital sex and pregnancy as a result of their clothing styles. The finding agreed with Ojija (2012) who opined that the mode of dress of adolescents exposes them to sexual immorality and consequence unprepared pregnancy. Pregnancy outside matrimonial home is always abnormal and shameful in the society. The finding also indicated that clothing style of the students in the area of study may lead them to sexual harassment such as rape which may lead to explosion of HIV/AIDS. This agrees with Egwim (2010) who noted that clothing styles increase the chances of sexual harassment and in most cases contracting of sexually transmitted disease and HIV/AIDS.

Exposition of part of the body that is supposed to be hidden could be prone to sexual harassment and abuse. The finding showed that roguery and prostitution are not uncommon in the area of the area of the study because of their clothing styles. Students steal and prostitute to dress and look like others (Ojijha 2012). The Finding also agrees with Onoyima (2013) who noted that indecent dressing among students lure their potential customers to prostitute with them. Gbadegbe and Quashie (2013) also maintained that students' strange way of dressing can result to sexual harassment of the wearer, abortion, contraction of sexually transmitted disease and poor academic performance. Gbadegbe *et al* (2013) also noted that mode of dressing by students could lead to homo-sexuality and lesbianism and increase their desire to steal. Students lie to their parents and guardians in order to buy the clothing styles in vogue. The study is in line with Omede (2011) who stated that students lie to their parents to keep afloat and be up to-date with clothing styles in vogue which are often incident wears. He noted that students never take such clothes home, the clothes are always kept in school while traveling to home. The finding indicated that clothing styles of students in Ebonyi State University affect students' concentration in lecture hall and consequently result to poor academic performance. The finding agrees with Ononyima (2013) who stated that most students who dress indecently often battle with carry over courses. The students according to Ononyima tend to have little or no serious time for their studies. The consequence is staying in the University more than expected and going out with poor grade.

Inappropriate clothing styles therefore present an unhealthy situation in school and in the society at large. Maintaining student like appearance especially in clothing choice is very important to the success and protection of the image of studentship. In other word, flawless appearance can bring inner peace and a sense of security to the students' academic performance and general well being.

Conclusion

The results of the study have shown that students of Ebonyi State University do not dress well. The students wear such clothing styles that induce lust and encourage seduction. Male students wear pant tight trouser with open chest vest, earrings, sagged trousers and so on while female students wear skin tight short sag trousers' transparent fishnet clothes, skin tight shorts among others.

The findings also revealed that the clothing style worn by the students of Ebonyi State University influence the students in various ways. The consequences of the clothing styles include premarital sex and pregnancy among the students, sexual harassment, prostitution, ineffective concentration in the lecture room and among others. Good wear promotes good citizenship, provide safe and comfortable environment conducive to learning. Good grooming among students help to create positive climate in the school environment. Appropriate clothing style also prepares youths to adult professional life. Students should therefore embrace right clothing choice.

Recommendations

In view of the findings of the study, the following recommendations were made;

1. Dean of each faculty in Ebonyi State University should appropriate consequences for violation.
2. Lecturers should collaborate with Ebonyi State University management staff to enforce the formulated dress style/code.
3. Lecturers should be empowered to prevent ill-dressed students from attending their lectures and offices.
4. The Ebonyi State University administrative staff should in the same vein refuse the students who are wrongly dressed in their offices.
5. The guidance and councelling with unit in collaboration with clothing and textile unit of Ebonyi State University should educate students during freshmen school orientation on the dangers of incident dressing and possible influence on their studies and general well being.

References

Afamara, J.(2012). Alarming indecent dress code among Gambia youths. Retrieved on 14th April, 2013 from www.wikihow.com >home>categories>youth.

Esiowu, A.P. & Igbo, C.A. (2005). Clothing for Self-Expression by female undergraduates in Universities in the South Eastern State of Nigeria. *Journal of Economics Research 9(1) 138-149.*

Ewgim, C. (2010). *Incident dressing among youths*. Accessed August 14, 2013 from http/www.es/networld.com/webpages/f eatures.

Ezugwu, A. (2013). Crazy wears Among youths. Retrieved 14th April, 2014.

Gbadegbe, R.S. & Quashie, M. (2013). The impact of Indecent Dressing on the Academic performances of students in Tertiary Institution, a case study if Ho Polytechnic in Ghana. Journal of education and practice vol.4; pg(1-2)

Gililan, L. (2010). The Prehistoric Development of Clothing. Archaeological Implication of a Thermal Model. *Journal of Archaeological mode and Theory, 17 (1) 15-18.*

Hadden, R. (2010). *Professional Dress Code.* Accessed on 05/08/2013 from www.ubs.com

Johnson, I.G. & Foster, A.G. (1990). Clothing Image and Impact. Cincinmati: Ohio South Western Publishing Co.

Kaka, H.J. & Agwa, S.I. (2008). Challenges of emerging technology innovations in dress and textiles. *Journal of Home Economics Research of Nigeria* (HERAN) 9 (1) 176-184).

Klevin, B.J. (2013) clothing your family. *Journal of American Clothing* Association, 5 (20) 80-91.

Molly, A.A. (2011). Students Dress Code. Accessed on 06/08/2013 from www.aisd.net/board.

Oji, A.C. (2012). *Indecent Dressing and the culture of prostitution in the society; the theory of clothing Development*. Ibadan: Ilinejere publishers.

Olori, T. (2003). Culture-Nigeria: "Incident" dressing banned on the campuses. Accessed August 14, 2013 from http/www.ipsnew.net/Africa/interna.asp?idnews=20018.

Omede, J. (2011). Indecent Dressing on Campuses of High Institution of Learning in Nigeria. Implications for counseling. *Journal of emerging Trends in Educational Research and Policy Studies* (JETERAPS) 2($) 228-223.

Ononyima, T.O. (2013). Picking the right husband/wife. Nsukka Chuka Educational Publishers.

Ozogwu S.U. & Anyakoha, E.U. (2005). Beholders' perception of female undergraduates clothing in selected Nigeria Universities. *Journal of Home Economics Research 6(1) 171-178.*

Ron, B. (2012). *Students Dress Code.* Accessed on 05/07/2013 from www.rbanner@cioverpark.k12.wa.us.

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Safety Enhancement in Fashion Design and Clothing Construction Laboratory in Tertiary Institutions in Anambra State

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Abstract

The study focused on safety enhancement in fashion design and clothing construction laboratories in tertiary institutions in Anambra state. It was a survey. Three research questions guided the study. The population for the study was 27 lectures of Home Economics, Fashion design and clothing technology in three tertiary institutions in Anambra State and 423 students from these departments. Questionnaire was used for data collection. Data were analyzed using mean. Major findings include that carelessness and lack of repairs were major risk factors in the laboratory, while putting on protective garments, laying down strict safety rules will enhance safety.

Introduction

Safety refers to the absence of risks that could potentially damage someone's health. According to Obodo (2001), it is the protection of the physical well being of people. Work environment can be seen as a place where an individual carries out an activity directed towards achievement of a goal. The work usually consists of those materials and equipment required by the individual to enable him/her carryout his/her works.

Ile (2002) sees work environment as the surroundings especially the material, and other influences which affect the growth, development and existence of a living being. Okorie (2000) opined that work environment comprises the worker, machine, equipment, tools, products, building and other relevant facilities. Here, the worker is seen as the chief factor with the responsibility of organizing other factors to make the environment safe.

Safety in the work place requires that worker be safety conscious in order to avoid unwanted accident. The work place should be built with a firm sense of security for the interest of the people working there in. safety in the work place should be the primary concern whether in the clothing laboratory or in an office. According to Banbuka (2002), It is a valuable asset that should be present in every aspect from the conception and design of machinery and equipment, and should directly involve employee or those handling the equipment. Safety in a work place is concerned with all safety mechanism put in place by employers and workers to ensure as much as possible the avoidance or elimination of accidents in work place.

One of the objectives of enhancing safety in work environment is to remove all possible cause of accidents in work environments which can cause health hazard to workers. Clothing construction laboratory is a place where equipment for sewing are kept, where drafting of patterns, clothing construction, mixing of chemicals for tye and dye and dye production takes place. Different kinds of work are carried out in clothing laboratory. All these equipment and tools need to be handled with caution to prevent accidents. A lot of activities are also carried out in the clothing construction laboratory such as designing, printing, cutting, weaving, knitting, drafting, sewing etc. All these activities require adoption of safety measures to avoid unnecessary accident in the fashion design and clothing construction laboratory.

There should be good source of light preferably florescent builds in the clothing laboratory. While engaged in printing, an operative must bend many times and keep moving around the whole department when dyeing and the arm raised in order to position the fabric correctly (Adamtay 2009). Clothing operative suffer from fatigue as a result of the need to maintain a high degree of concentration on monotonous work which prevent them, on one hand and the other interacting with Colleagues and the other from working at a pace governed by human convenience (Adamtey 2009). The risk of accidents arises from the possibility of slipping on wet slippery floors, being knocked or crushed or carrying heavy loads. Some of these safety enhancement measures to be taken according to utility guild at work place (2000) include:

- ❖ Routine inspections and identification of possible risk.
- ❖ Monitors tidiness and employee's education
- ❖ Keep away unwanted tools and equipments from the work place
- ❖ Carryout regular maintenance exercise on machine.
- ❖ Find out the cause of any unusual noise or sign on machines before they get damage.
- ❖ Use correct tools for appropriate job
- ❖ Repairing all electrical appliances
- ❖ Covering ones nose while mixing chemicals
- ❖ Putting on protective garments and articles when handling chemicals
- ❖ Laying down strict rules in relation to safe working practice and behaviours.

This study focused on safety enhancement in fashion design and clothing construction laboratory. There are lots of factors that cause accidents in the clothing laboratory. There is need for proper enhancement of safety measures to ensure the safety of workers in their work environment. Alpine Electronic Incorporation (2013) also observed that routine inspections and identification of possible risks in the work place, unexpected accidents are avoided. The real key to accident prevention lies in creating a climate of opinion from top to bottom in the organization where the safe way of doing things is discussed. This is also in line with Environment Health and Safety Incorporation (2013) which enables the research and educational processes through training and consultation, facilitating loss prevention programmes and providing a framework for work place hazard analysis and control.

Purpose of the study

The major purpose of this study was to evolve safety enhancement in fashion design and clothing construction laboratories within tertiary institutions Anambra state.

Specially, the study indentified.

1. Factors that cause accidents in fashion design and clothing construction laboratories.
2. Safety enhancement measures that could be adopted in fashion design and clothing construction laboratories.

Research questions

The following research questions guided the study;

1. What are the possible causes of accidents in the clothing construction laboratory
2. What are the various ways of enhancing safety in the clothing construction laboratory?

***Methodology*:** A survey research design was adopted for the study. The area of the study was Anambra State. The study was conducted in three tertiary institutions in Anambra State offering Home Economics. These institutions were selected based on the fact that they offer courses and training in clothing construction.

***Population for the study*:** The population of the study was twenty seven (27) lectures teaching in Home Economics, fashion design and clothing technology department in three tertiary institutions in Anambra State. The institutions include Federal Polytechnic Oko, Federal College of education (technical), Umunze and Nwafor Orizu college of education Nsugbe. The population of students was 423 offering Home Economics, fashion design and clothing technology.

***Sample for the study*:** A sample random sampling technique was used to select 251 lectures and students from the tertiary institutions offering Home Economics, fashion design and clothing technology. They include seven (7) lectures and eighty students from Federal Polytechnic Oko, Eight (8) lectures and eighty (80) students from federal collage of Education Technical Umunze, six lectures and seventy students from Nwafor Orizu College of Education Nsugbe.

***Instrument for data collection*:** The instrument for data collection was a structured questionnaire. It was developed based on the purpose of the study and review of literature. The instrument was validated by five experts in related fields. Three from Federal Polytechnic, Oko, and two from Federal Collage of Education (technical) Umunze.

***Method of data collection*:** Two hundred and fifty one s(251) copies of the instrument were administered by hand with the help of three field assistants. The 251 copies of the questionnaires were completed and returned on the sport.

***Method of data Analysis*:** Frequency distribution and mean scores were used for data analysis. The mean scores were used to determine the assumed importance level as expressed on a 5-point scale for each of the items. A mean value of 3.00 was used for decision making. thus any item with mean value above 3.00 was accepted and any mean value below 3.00 was rejected.

Findings:

The following findings were made:

I. **Causes of accidents in clothing, construction laboratory**

Table 1: Mean score of respondents on the possible causes of accidents in the clothing construction laboratory.

Number of respondents (N=251)

S/No	Possible causes of accidents in clothing Construction laboratory.	$\bar{x}$	Remark
1	Forgetfulness	3.38	Cause
2	Carelessness	4.49	"
3	Bad equipments	4.23	"
4	Slippery floor	4.38	"
5	Lack of repairs	3.43	"
6	Faculty electrical appliances	3.72	"
7	Faulty switches	2.60	'"
8	Laziness	3.20	"
9	Carrying heavy load	4.39	"
10	Ignorance on the use of equipments	3.96	"
11	Lack of training	3.88	"
12	Fatigue	3.21	"
13	Lack of concentration	3.74	"
14	Poor vision	4.31	"
15	Bad posture	4.26	"
16	Stress	4.29	"
17	Wrong use of chemicals	4.36	"
18	Noise	3.50	"

Table 1 shows that 1 to 6 and 8 to 18 had their mean ranging from 3.20 to 4.49 which falls within the response category considered as a cause of accident. This indicates that forgetfulness, carelessness, bad equipments, slippery floor, lack of repairs, faulty electrical appliances, laziness carrying heavy load, ignorance on the use of equipments, lack of training, fatigue, lack of concentration, poor vision, bad posture, stress, use of chemicals and noise are possible causes of accidents in the clothing construction laboratory. Item 7 had a mean of 2.60 which is less than 3.00 and therefore was not accepted as one of the causes. This indicates that a faulty switch is not a possible cause of accidents in the clothing construction laboratory.

II. **Ways of enhancing safety in clothing construction laboratory.**

Table 2: means score of respondents on the various ways of enhancing safety in clothing laboratory.

Number of respondents (N=251)

S/No	Ways of enhancing safety in Clothing construction laboratory	$\bar{x}$	Remarks
1.	Keep away from unwanted tools and equipments from the working Surface enhancing	3.73	Safety measure
2	Carry out regular maintenance on Machine	3.11	Safety measure
3	Use correct tools for appropriate Job measures	3.74	Safety measure
4	Repair all electrical appliances	3.56	Safety measure

5	Put off electrical switches when not in use	3.47	Safety measure
6	Cover the nose with a mask while mixing chemicals	3.64	Safety measure
7	Find out causes of unusual noise or Signs from machines	3.88	Safety measure
8	Put on protective garments and articles when handling chemicals	4.05	Safety measure
9	Keep the work environment Ventilated	3.37	Safety measure
10	Keep the work environment Ventilated	3.37	Safety measure
11	Provide safety policy for the users of the laboratory	3.77	Essential

Total number of respondents (N) =251, $\bar{x}$ = Mean

Table 2 shows that item I to 2 had their mean ranging from 3.11 to 4.05 which falls within the response category of safety measure. This indicates that keeping away from unwanted tools for appropriate job, repairing all electrical appliances, putting off electrical switches when not in use, covering the nose with a mark while missing chemicals, finding out causes of unusual noise or signs on machines before they get damaged, putting on protective garments and articles when handing chemicals, keeping the work place tidy, keeping the work environment ventilated, providing safety policy for the users of laboratory are various ways of enhancing safety in clothing construction laboratory.

Discussion of findings

The study shows possible causes of accident in clothing construction laboratory. These causes of accident include carelessness, carrying heavy loads, slippery floor, ignorance of the use of equipment, lack of training, lack of concentration, faulty electrical appliances, lack of repairs, poor vision, bad posture, stress, wrong use of chemicals and noise. The data revealed that all these factors constituted to accident in clothing construction laboratory. The findings are in line with Adamtay, (2009) who pointed out that the risk of accidents arises from the possibility of slipping on wet slippery floors, being knocked or crushed, or putting a muscle by handling heavy loads. According to Nordas (2003) knitting machines must be equipped with differentiated controls, photo electrical cells and emergency buttons.

Carelessness, forgetfulness, laziness fatigue and lack of concentration are human factors that cause accidents. The findings are in line with Adamtey, (2009) who pointed out that human factors are the way in which we behave at work. This according to Boone and Kurtz (1991) has massive impact on the health and safety of ourselves, those working near us and any customer we serve. Boone and Kurtz (1991) also pointed out that physical and mental state of a person can be critical in the way that they perform at work, the way in which a task is approached can change due to stress and anxiety. It can be difficult to focus and concentrate when suffering from stress.

Table 2 of the study revealed various ways of enhancing safety in clothing laboratory. Notable among these are putting on protective garments and articles when handling chemicals, and providing safety policy for the users of clothing laboratory to back them up in case of any possible risk occurrence. The findings are in line with utility guide at work place (2012) which emphasizes “zero” risk in the work place by improving the work environment and assisting towards employee's health, continuously reducing risks by evaluating risks arising from hazards, setting objectives and making efforts to minimize risks within the scope of activities. The study also revealed keeping away unwanted tools and equipment from working surface, use of correct tools for appropriate jobs and repairing all electrical appliances as ways of enhancing safety. According to Nwachukwu (2001), putting off electrical appliances when not in use, covering the nose with mask while mixing chemicals, finding out the causes of unusual noise or signs on machine before they get damaged and keeping the work place tidy are ways of enhancing safety in clothing laboratory. These conform with Nwachukwu (2001) who stated that all safety precautions must be in place in clothing laboratory. These include both safety of machines, tools, equipment and human beings handling these machines. On provision of safety policy for the employee to back them up in case of any risk occurrence; Regular maintenance on machine and equipment should be carried out to ensure its workability. This is supported by the opinion of National Safety Council (2014) which states that the journey to safety excellence is a process of continuous improvement and maintenance. Ile (2002) opined that employees at times face some risks in their place of work and they need safety policy that will back them up in case of any risk occurrences. He stated that it is the duty of employers of labour to provide safety policy to the employees. Also Adamtey (2009) recommended that windows should be large enough and not too high. Artificial lightening must be in place to give adequate light over all working positions. There should also be good source of light, preferably fluorescent bulbs should be in place in order to prevent accidents.

On the use of protective garments and articles, Ile (2002) suggested that employers must provide staff with personal protective equipment, when their role involves working in situations or with substances where personal protective equipment are needed. An employee must also report any fault or defects on the personal protective equipment to the employer.

Conclusion

The study has investigated safety enhancement in fashion design and clothing construction laboratory in Anambra State. It is obvious from the study that a lot of factors are responsible for causing accident in clothing construction laboratory in Anambra State. It is also important that strategies for safety enhancement are put in place for the good of those working in clothing laboratory. This will go a long way in promoting the physical and mental wellbeing of workers in clothing laboratory.

Recommendations

Based on the findings of this study, the researcher made the following recommendations for safety enhancement in fashion design and clothing construction laboratory.

- Manufacturer's instructions should be followed carefully while handling chemicals and personal protective equipment to be used as required to prevent injury through direct contact or inhalation.
- Knitting machines must be equipped with differentiated controls, photo electric cells and emergency buttons.

- Safety policy should be provided for the users of clothing construction laboratory to back them up in case of any risk occurrence.
- Unwanted equipment should be kept away from working surface while correct tools for appropriate jobs should be used.
- All electrical appliances must be repaired and electrical appliances put off when not in use.
- Staff and students should be trained on the appropriate use of machines.

References

Iyare, F.O. (2000). Teaching Home Economics in Contemporary Times. *A Practical Perspective Journal of Educational Systems Research and Development* 4:2.35-36.

Kadoplh, S.T. (1998).*Quality Assurance for Textile and Apparel*. New York: Fair Child.

Anyakaoha, E.U and Eluwa, M. (1995). *Home Management for School and Colleges*. Onitsha Africana FEB Publisher Limited PP 15-18.

Nwachukwu T.E. (2001). *Designing Appropriate Methodology in Vocational and Technical Education for Nigeria* Nsukka. Fulladu Publishing Company PP 118-119.

Boone, L.E. and Kurtz, D.L. (1991). *Principles of Management*. New York Random House Inc.

Obodo, N.A. (2001). *Modern Approach to Office Administration and Management.* Nikal Printing and Publishing Co. Enugu.

Ile, M. (2002). *Fundamentals of Management:* Theories Practice. Chiezugo Ventures. Enugu.

Okorie, J.U. (2000). *Development Nigerians Work Force*. Calaba MCNKY Environ Publishers PP 83-85.

National Safety Council (2014). Retrieved on 15/3/2014 from www.nsc.org/safety-workpages/home.aspx.

Alpine Electronic Incorporation (2013). *Work Place Enhancement* Retrieved on 15/3/2014 from http/www.alpine.com/e/esr/ Individuality Health.

Environmental Health and Safety Incorporation (2013). *Environments Health and Safety*. Retrieved on 15/3/2014 from http.www.ucop.edu/risk-services/Loss Prevention-Control.

Biesse (2013). *Continuous Safety Enhancement in the Work Place*. Retrieved on 15/3/2014 from http/www.biesse.com/en/ corporate. The Company/Quality-and-Sustainability.

Bambuka, E.A. and Singh N. (2002). *Environment and Health Education for Sustainable Development in Nigeria.* A paper presented at National Conference Organization by the School of Science, College of Education, Jalingo, from 29th – 30th October, 2002.

Utility Guide at work place 2012 *Utility Guide at work place.* Retrieved on 15/3/2014 from www.gloveguard.com.

Adamtey, S.O. (2009). *Fashion design, Pattern drafting and adaptation.* Sika Futoro Enterprise Akropong: Ghana.

Nordas, H.K. (2003) *The Global Textile and clothing industry*. Post the agreement on Textile and Clothing. Retrieved on 15/3/2014 from http:www.wto.org/English /res-e/booksp-e/discussionpaper.

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Incidence of Malaria Among Pregnant Mothers in Nsukka Local Government Area of Enugu State, 2008-2012

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Abstract

The study determined incidence rate and trend of malaria among pregnant mothers in Nsukka LGA of Enugu State for 2008-2012. Three specific objectives, three research questions and one hypothesis guided the study. The study adopted expost facto design using retrospective survey. The population of the study consisted of all pregnant mothers that attended health facilities in Nsukka LGA within 2008-2012. A total number of 1, 277 new malaria case files between 2008– 2012 was sampled for the study. Inventory profoma was used for data collection. Data generated were analysed using percentages. The null hypothesis was tested using chi–square at .05 level of significance. The results showed that incidence rate of malaria among pregnant mothers recorded highest (24.7 per 1000) in 2011 and lowest (13.5 per 1000) in 2008. There was increase and decrease incidence trend of malaria for the five years. The null hypothesis of no significant difference in the incidence of malaria among pregnant mothers based on age was accepted. Based on the findings, the researchers recommended among others that, pregnant mothers should be encouraged by health providers to utilize roll – back malaria programmes.

Keywords: Incidences, Malaria, Trend, Pregnant, Mothers.

Introduction

Malaria is one of the most common and serious tropical diseases. It is caused by protozal parasites of the plasmodium family. There are four species of plasmodium. They are; *Plasmodium falciparium, Plasmodium malariae, Plasmodium ovale and Plasmodium vivax.* Among these four species, *Plasmodium falciparium* causes a more serious disease and is common in tropical Africa (Lucas and Gills, 2007). The disease is transmitted by the female anopheles mosquitoes which become infected when they feed on human carriers. Ojo and Bridges (2004) stated that the development and multiplication of the parasite in the mosquito takes about 7–20 days, after which the mosquito becomes infected and capable of transmitting the infection into the human blood during a bite. It stays for a short period (between 10 and 14 days) in the new host before causing signs and symptoms. This is called the incubation period. Symptoms of malaria according to Obionu (2006) include malaise, lack of appetite, headache, joint and body aches, followed by irregular fever which is often interrupted by episodes of rigor (shivering) and then sweating – febrile paroxysms. These symptoms are most often severe during pregnancy and affect the pregnant woman's normal daily activities.

It is endemic throughout south and South–East Asia, Africa, the Middle East and Central America. In many developing countries, malaria is one of the major causes of ill health and death especially in children and pregnant mothers. Olise (2007) posited that over one million people die worldwide annually from malaria. In Africa, malaria is the second leading cause of death from infectious diseases. Almost 1 out of 5 deaths of children under 5 years in Africa is due to malaria (United States Embassy in Nigeria, 2011). It further reported that there are an estimated 100 million malaria cases with over 300, 000 deaths per year in Nigeria, and contributes to an estimated 11 per cent of maternal mortality. Malaria is an infectious disease, therefore could be transmitted from one person to another.

Malaria in pregnancy is life threatening and it can affect the brain resulting to cerebral malaria leading to convulsions. According to Centers for Disease Control and Prevention –CDC (2013), malaria in pregnant women is associated with high risk of both maternal and perinatal morbidity and mortality. Other complications of malaria in pregnancy include: anemia, abortion, premature birth, low birth weight, still birth, death of the mother, and intra-uterine growth retardation (Abino, 2012). It is therefore, very important that both preventive and curative measures are adequately employed to reduce the incidence of malaria in pregnancy in all the malaria in Nigeria. Saugare, Weiss, Brentlinger, Richardson and Staedke (2012) stated that effective prevention strategies and case management of malaria illness are the foundation of malaria control during pregnancy. Preventive measures like environmental cleanliness, use of insecticide treated mosquito nets (ITNs) and pesticides are effective in preventing mosquito bites. Also, the use of intermittent preventive therapy (IPT) such as sulphadoxine pyrimethamine (SP) drugs is effective in prevention of malaria during pregnancy. Chedraui, Daily & Wylie (2014) opined that pregnant women are more prone to complications of malaria infection than non-pregnant women and treatment involves antimalarial drugs and supportive measures. The authors also opined that prevention involves chemoprophylaxis and mosquito avoidance

Incidence refers to number of times something new happens especially a disease. Park (2009) defined incidence of a disease as the number of new cases of a particular disease conditions occurring in a defined population during a specific period of time. The author further stated that incidence measures the rate at which new cases of a disease are occurring in a population. This is referred to as incidence rate. In this study, incidence of malaria in pregnancy therefore, refers to the repeated occurrence of malaria during pregnancy in a particular population over a specific period (2008 - 2012). Incidence rate is calculated as the number of new cases of malaria in pregnancy during a given period over the population of pregnant women in the study area. Trend refers to the direction in which a situation is changing or developing. Osie (2012) stated that trend studies changes within some general population over time.

Nsukka LGA is located in Enugu-North senatorial zone of Enugu State. It is made up of urban and rural settings with pregnant women scattered almost in every community that make up Nsukka LGA with poor socio-cultural and poor socio-economic characteristics. These characteristics may likely predispose women in this area to malaria in pregnancy. Incidentally, no study or basic surveys to the best knowledge of the investigators exist that focused on the incidence of malaria among pregnant mothers in Nsukka LGA of Enugu State. Thus, this research is poised to fill part of the gap.

Purpose of the Study

The main purpose of this research was to study the incidence of malaria in pregnancy among pregnant mothers in Nsukka LGA. Specifically the study determined:

1. the incidence rate of malaria in pregnancy among pregnant women in Nsukka LGA between 2008 and 2012
2. the trend of malaria in pregnancy between 2008 and 2012.

Research Question

The following research questions were formulated to guide the study.

1. What is the incidence rate of malaria in pregnancy among pregnant women in Nsukka LGA between 2008 and 2012?
2. What is the trend of malaria in pregnancy between 2008 and 2012?

Hypothesis (H0)

The incidence of malaria among pregnant mothers in Nsukka LGA between 2008 and 2012 is not significantly different based on age.

Methodology

***Design of the Study*:** The study adopted descriptive survey of expost–facto design using the retrospective survey. This method was chosen because it is mostly used in epidemiological studies and is widely used to retrieve data from records on the occurrence of diseases in the past.

***Area of the Study*:** the area of the study was Nsukka Local Government Area (LGA) in Enugu-North senatorial zone of Enugu State. It is made up of 24 communities with fifty health facilities (thirty-two public health facilities and eight private health facilities). Pregnant women in this study area utilize these health facilities for their ante-natal services. Nsukka is surrounded with hills, grasses, ponds especially during rainy season. The area is also characterized by improper waste disposal. All these foster the breeding of mosquitoes which transmit malaria.

***Population for the Study*:** The population for the study consisted of all pregnant women (their case files) that attend the health facilities in Nsukka LGA between 2008 and 2012. A total of 12, 371 pregnant mothers' case files were retrieved and used for the study.

***Sample for the Study*:** The study used the new cases of malaria among pregnant mothers. All first diagnosis of malaria during the gestational period was selected. A total number of 1,277 case files were selected and used for the study.

***Instrument for Data Collection*:** The instrument for data collection was inventory proforma called incidence of malaria inventory proforma (IMIP). This was used to collect data from the pregnant mothers' case files in the health facilities on the incidence of malaria among pregnant mothers. The instrument was validated by three experts, one from the medical record office and two from the Department of Health and Physical Education, University of Nigeria, Nsukka.

***Method of Data Collection*:** The researchers approached the officers-in-charge (oic) of the health facilities with their staff ID to obtain permission to access the case files. Data were collected for the period of five years (2008-2012), through the help of three research assistants (medical record officers). They were requested to transfer data from the client's folders to the proforma.

***Method of Data Analysis*:** Frequency and percentages were used to compute the incidence rate of malaria in pregnancy. Index number was used to establish the trend of malaria in pregnancy between 2008 and 2012. Chi–Square statistic was used to test the null hypothesis.

Results

The results are hereby presented in tables and graphs as they relate to the research questions and hypothesis.

Table 1: Incidence Rate of Malaria among Pregnant Women (2008-2012) (N = 1, 277)

Years	f	%	(IR)
2008	135	10.57	13.5
2009	164	12.84	15.1
2010	293	22.94	21.6
2011	384	30.07	24.7
2012	301	23.57	19.5

IR = Incidence Rate

Table 1 shows the incidence rate of malaria among pregnant women from 2008 – 2012. The incidence rate recorded was highest in 2011 (24.7) and lowest in 2008 (13.5). The incidence rate of malaria in pregnancy in 2009, 2010 and 2012 recorded 15.1, 21.6 and 19.5 respectively. The incidence rate of malaria among pregnant women in Nsukka LGA is further presented in Figure 1.

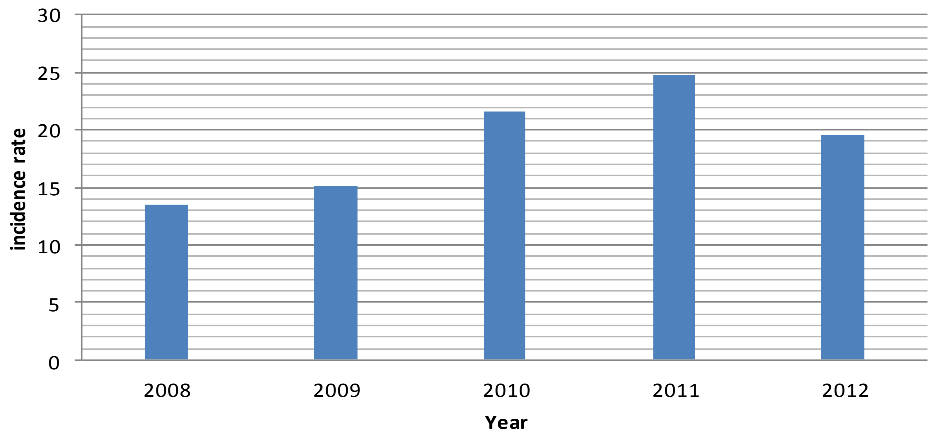

Figure 1: Bar Graph Showing the Incidence Rate Malaria among Pregnant Women (2008 – 2012) (N = 1, 277)

Figure 1 shows the pictorial presentation of the incidence rate of malaria among pregnant mothers in Nsukka between 2008 and 2012. The figure shows that the incidence rate of malaria was highest in 2011 and lowest in 2008.

Table 2: Incidence Trend of Malaria among Pregnant Mothers (2008 - 2012)

Years	f	Index no
2008	135	100
2009	165	121
2010	293	217
2011	384	284
2012	301	223

Table 2 shows that there is a fluctuating incidence trend of malaria among pregnant mothers using 2008 as the base line index number. In 2009 the trend increases by 121 and increases further in 2010 to 217. In 2011, the trend increases to 284 and decreases in 2012 to 223. Thus, the incidence trend of malaria was increasing until 2012 when it had a sharp decline.

Figure 2: Graph showing the Incidence Trend of Malaria among Pregnant Women (2008 – 2012) (n = 1,277)

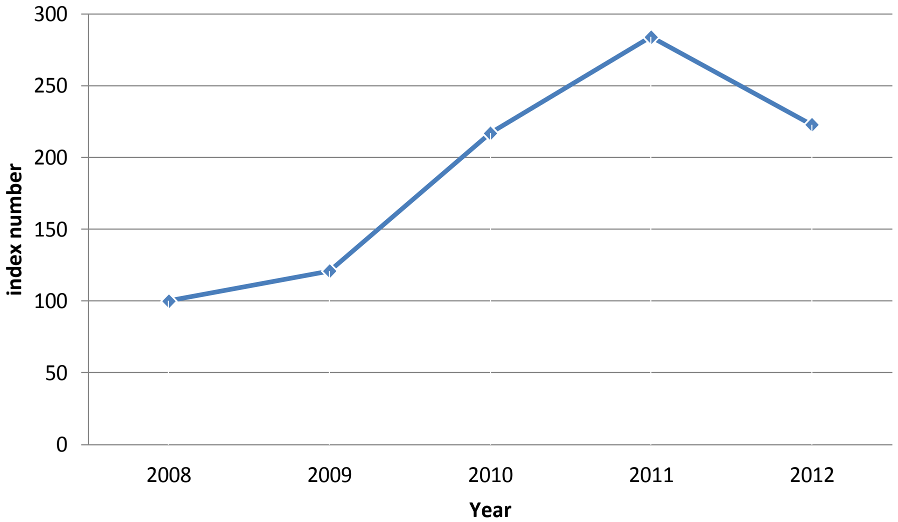

Figure 2 is a graphic explanation of Table 2. The figure shows the incidence trend of malaria among pregnant mothers in a pictorial form. It shows that between 2008 and 2011, there is increase in the incidence of malaria among pregnant mothers, after which there was a sharp decline.

Table 3: Summary of Chi-Square Analysis of Incidence of Maria Based on Age.

Variable	N	CalX²	TabX²	df	P	Decision
Age	1277	11.5	15.5	8	.05	Accepted

Table 3 shows that the calculated chi-square value of 11.5 is less than the table chi-square value of 15.5 at .05 level of significance and df of 8. The null hypothesis of no significant difference in the incidence of malaria among pregnant mother in Nsukka LGA based on age was therefore accepted.

Discussion

The findings of the study in table 1 and figure 1 showed that there was 1, 277 new cases of malaria among pregnant mothers in Nsukka LGA of Enugu State between 2008 and 2012. The highest incidence rate of 24.7 per 1000 was recorded in 2011 while the lowest incidence rate of 13.5 per 1000 was recorded in 2008. This finding was surprising due to the fact that there have been various intervention programmes against malaria in Enugu State generally. These intervention programmes include distribution of insecticide treated mosquito nets (ITNs) to pregnant and nursing mothers and the use of free intermittent preventive treatment (IPT) in the prevention of malaria among pregnant mothers. These findings were in line with the findings of a study on the prevalence and prevention of malaria in pregnancy in Edo State conducted by Wagbatsoma and Omoike (2008). The study found out that the use of ITN and IPT were observed to be highly effective in reducing the episodes of malaria among pregnant women. The findings were also in line with Alemu et al (2012) who asserted that regardless of sustained control efforts, malaria still remains as the major cause of morbidity and mortality especially among pregnant mothers and children under five years.

Table 2 and figure 2 showed fluctuating trend in the incidence years (2008 - 2012) in Nsukka LGA. The incidence trend recorded a maximum index number of 284 in 2011 and minimum index number of 100 in 2008. This increase and decrease fluctuations were expected. This is because the intervention programmes of malaria control might influence the trend. Alemu et al (2012) opined that factors affecting malaria incidence and prevalence trend include increase attention to malaria control and preventive measures by different agencies. These programmes appeared to be prerequisite to improved health care services especially the provision of maternal and child health care services, both in the urban and rural areas of the country.

The chi-square analysis of no significant difference in the incidence of malaria among pregnant mothers based on age was accepted. The implication of this finding is that age is not a factor in the incidence of malaria among pregnant mothers for the five years (2008-2012) in Nsukka LGA of Enugu State. This finding is in line with Oladeinde, Omoregie, Odia & Oladeinde (2012) who asserted that prevalence of malaria among pregnant women did not differ with age range. This finding however, contradicts Snow (1998) who asserted that there was astronomical increase of malaria infection for pregnant mothers who were 40 years and above. This may be due to low utilization of ITNs observed in older pregnant mothers, resulting from discomfort experienced by some of them when they sleep under ITN. Aluko and Abimbola (2012) also found that there was low utilization of ITN among postpartum women in Ibadan due to discomfort especially excessive heat when slept under ITN.

Conclusion

The highest incidence rate of 24.7 per 1000 of malaria among pregnant mothers was recorded in 2011 while the lowest incidence rate of 13.5 per 1000 was recorded in 2008. Moreover, there was increase and decrease in the trend of malaria for the five years. The incidence of malaria among pregnant mothers did not significantly differ.

Recommendations

- Pregnant mothers should be encouraged by health care providers to utilize roll-back malaria programmes such as the use of insecticide treated mosquito nets (ITNs) and intermittent preventive therapy (IPT).
- Mothers should be advised to improve on environmental sanitation to curb breeding of mosquitoes.
- Government should improve and be consistent with malaria preventive measures and control.

References

Abino, D. (2012). Clinical features and complications of malaria. Retrieved on 28th July, 2013 from www.slideshare.net/AbinoDavid/clinical-features-and-complications of malaria

Alemu, A., Muluye, D., Mihret, M., Adugna, M., and Gebeyaw, M. (2012). Ten year trend analysis of malaria prevalence in Kola Diba, Northwest Ethiopia. *Parasites and Vectors 5(173).* Retrieved on 28th July, 2013 from http://www.parasitesandvectors.com/content/5/1/173

Aluko, J.O., & Ambibola, O. O. (2012). Utilization of insecticide treated nets during pregnancy among post partum women in Ibadan, Nigeria. *BMC Pregnancy and childbirth 12(12)1471.*

Centers for Disease Control and Prevention (2013). Malaria diagnosis and treatment. Retrieved 28th May, 2014 from http://www.cdc.gov/malaria/diagnosis_treeatment/clinicians3.html

Chedraui, P.A., Daily, J. & Wylie, B.J. (2014). Treatment and prevention of malaria in pregnancy. Retrieved 28th May, 2014 from http://www.uptodate.com/contents/treatment-and-prevention-of-malaria-in-preg.

Lucas, A. O., & Gills, H.N., (2007). *Preventive medicine for the tropics (rev.ed).* Ibadan: Holder and Stoughton.

Obionu, C.N. (2006). *Primary health care for developing counties.* Enugu: Delta Publication Ltd.

Ojo, O. K., & Briggs, E. (2004). *A textbook for midwives in the tropics (5th ed).* London: Holden and Stoughton.

Oladeinde, B.H., Omoregie, R., Odia, I., & Oladeinde, O.B. (2012). Prevalence of malaria and anaemia among pregnant women attending a traditional birth home in Benin City, Nigeria. *Oman Medical Journal 27(3): 232-236.*

Olise, P. (2007). *Primary health care for sustainable development.* Abuja: Ozege publications.

Osie, D. (2012). Survey Research and Data collection. Retrieved from www.Uk.edu/classes/SOCW/SOCW560. On 28th July 2013.

Park, K. (2009). *Preventive and social medicine (20th ed).* India: Barnasides Bhanot Publishers.

Saugare, L.R., Weiss, N.S., Brentlinger, P.E., Richandson, B.A., Staedke, S.G. (2012). Determinants of insecticide treated nets for the prevention of malaria in pregnancy in Jinga, Uganda. *PLos ONE 7(6).* Retrieved on

7th March 2014, from www.plosone.org/article/info
Snow, R.W. (1998). Childhood deaths and causes in the southern zone of Namibian. *Journal of tropical paediatrics 42, 107 – 128.*
United States Embassy in Nigeria (2011). Nigeria malaria fact sheet. Retrieved on 28th July, 2013 from http://nigeria.usebassy.gov.
Wagbatsoma, V.A. & Omoike, B.I. (2008). Prevalence and prevention of malaria in pregnancy in Edo State, Nigeria. *African Journal of Reproductive Health. 12(3): 49-58.*

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Indigenous Ways of Preserving Wet Corn Paste *(Ogi)* for Family Use

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Abstract

The study assessed the indigenous ways of preserving corn paste (Ogi). Effect of different storage conditions on pH, acidity, microbial content and sensory qualities of the corn paste (Ogi) were examined as well as the sensory qualities of the corn paste (Ogi) measured using 9-point hedonic scale. Data collected were analysed using Analysis of Variance (ANOVA). Result revealed that there was no significant difference ($p < 0.05$) in the pH content of the wet corn paste (Ogi) kept in covered plastic (A) and sealed cellophane (B) stored under ambient temperature. pH content was found to reduced significantly from 7 through 14 days. Although further reduction was noticeable in day 21, it was not significant ($p <0.05$). Besides, no significant difference occurred ($p < 0.05$) in the acidity of wet Corn paste (Ogi) until the 14th day of treatment irrespective of the storage condition (either kept in refrigeration or in ambient temperature). Another revelation of the study is that corn paste (Ogi) (corn paste) sample stored in the refrigerator had reduced fungi and bacterial counts (at most 1.5×10^6 and 1.2×10^4 respectively) when compared with samples stored in ambient condition (at most 4.0×10^6 and 2.5×10^4 respectively) which indicated that the refrigeration temperature reduced or inhibits the fermentation processes of the Corn paste (Ogi) samples. Corn paste (Ogi) kept in sealed cellophane and stored in the refrigerator was found to be the most accepted with respect to overall acceptability.

Key words: Indigenous, Ways, Preservation, Corn, Paste, Family.

Introduction

Corn paste (*Ogi*) is popular in Nigeria and in most of West Africa and produced traditionally from maize, sorghum or millet. It is prepared by steeping clean grains in water at room temperature (25+2^{o}C) for 48-72 hours (Omemu, 2011). The steep water is decanted and the fermented grain is washed with clean water and then wet-milled. In processing of maize, sorghum or millet into corn paste (*Ogi*) , the bran is removed by wet sieving and the sievate is allowed to settle for another 24-48 hours. This process is referred to as souring during which time fermentation also proceeds and the solid starchy matter, corn paste (*Ogi*), sediments.

Corn paste (*Ogi*) is a sour fine paste beverage which when cooked produces a thin semi-solid porridge. Corn paste (*Ogi*) porridge has a smooth texture and a sour taste resembling that of yoghurt (John et al., 2012). Corn paste (*Ogi*) has various uses and is consumed in varieties of forms.

According to Omemu and Adeosun (2010), corn paste (*Ogi*) is traditionally produced and marketed as a wet cake wrapped in leaves or transparent polythene bags. It is either boiled into a thin porridge, "pap", or a thick porridge, "*eko*" *or* "*agidi*", before consumption. However, substantial nutrient has been reported in processing corn paste to *"eko"* or *"agidi* (Hamad and Fields, 2009; Oke, 2001) necessitating discovering new way of processing the paste.

Corn paste (*ogi*) accounts for as much as 77% of total caloric consumption in Nigeria (Mitchell and Ingro, 2007), and contribute substantially to dietary protein of Nigeria citizens. Nutritionally, Corn paste (*ogi*) is an important source of dietary protein, carbohydrates, the B complex of vitamin E, iron, trace minerals, and fiber (Chaven and Kadam, 2003; 2008).

Being a staple Nigerian diet, corn paste (*Ogi*) is widely used as the first native food given to babies at weaning to supplement breast milk. It is also a palatable breakfast for pre-school, school children and most adults. As a weaning food, it is mainly patronized by the low-income earners because of high cost of imported infant formulations. Corn paste (*Ogi*) is equally consumed as a main meal for convalescing patients due to its easy digestibility (John, Okara and Osita, 2012).

Corn paste (*Ogi*) is now being processed using both modern and traditionally methods. The traditional method is a batch process carried out on a small scale for domestic use or as a commercial venture by some housewives. Specifically, Umo and Fields (1981) outlined the procedure as follows:

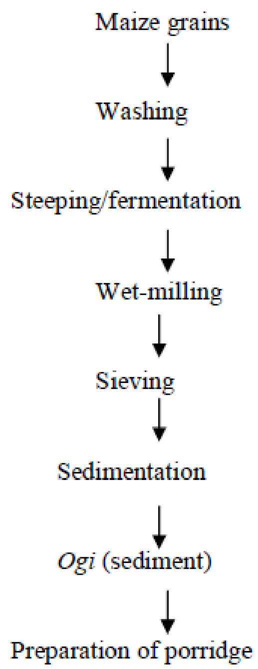

Figure 1: A flow diagram of the traditional method of corn paste (*Ogi*) production (Umo and Fields (1981).

Steps in traditional processing of Corn paste (*Ogi*)

1. Maize grains are washed thoroughly to remove dust particles and the impurities.
2. The grains are then steeped in earthenware, plastic, or enamel pots for 1-3 days at room temperature. (Microbial fermentation takes place during the steeping)
3. An electrically powered grinder is used to wet-mill the softened grains.
4. Water is then added to the ground material to obtain slurry.
5. The slurry is sieved by means of a finely porous cloth in order to remove parts of the hull.

6. The filtrate which is almost pure starch is allowed to stand for 20-30mins for sedimentation to take place.
7. The starch paste which is obtained can be prepared into corn paste (*Ogi*) porridge by introducing small quantity of hot water.

Although, the figure above demonstrates the standard traditional methods of corn paste (*Ogi*) preparation, there are notable variations in some communities which could affect nutritional composition and even hygiene of the food products. The subtle differences could make a difference in nutritive and sensory qualities of the traditionally processed wet corn paste (*Ogi*) (Oke, 2001). This is the basis for evaluating the traditional methods of preparing wet corn paste (*Ogi*) in the study area for comparison with the standard and implications on nutritional composition and sensory qualities of the product.

Microbial corn paste (*Ogi*) and nutritional studies by Akinrele (2002) showed that the lactic acid bacterium Lactobacillus plantarum, the aerobic bacteria Corynebacterium and Aerobacter, the yeasts Candida Aspergillus and Penicilliun are the major organisms responsible for the fermentation and nutritional improvement of corn paste (*Ogi*). Adegoke (2004) reported that efforts are currently underway in Africa to modify the processing of Corn paste (*Ogi*) with a view to enhancing its nutritive value shelf-life and possible therapeutic qualities. A protein-enriched corn paste (*Ogi*) containing 10% soya flour was developed by the Federal Institute of Industrial Research (FIIRO), Oshodi, Lagos, Nigeria (Akinrele, 2006). In Nigeria, Olukoya , Adeojo and Omotunde (2011) reported the development of an corn paste (*Ogi*) product having therapeutic properties on the basis of its ability to control diarrhea among infants. This finding is of great relevance since corn paste (*Ogi*) is used as a popular weaning food for children in Nigeria .

Objectives of the study

The major objective of the study was to assess the effect of different storage condition on the Physio-chemical properties of wet Corn paste (*Ogi*). Specifically, the study determined

(i) the effects of different storage conditions on the physio-chemical and microbial quality of Corn paste (*Ogi*) and

(ii) (ii) the microbial quality of corn paste (*Ogi*) sample stored under the three different storage conditions.

Materials and Methods

Material: Maize was purchased from Igboora market in Ibarapa Central Local Government Area, Oyo State, Nigeria.

Processing Method: 5 kg of white maize grains were wet milled and wet sieved and the sediment Corn paste (*Ogi*) allowed to settle. The steps taken to do this is presented thus:

Step 1: White maize were sorted and washed with clean water

Step 2: White maize (5kg) were washed and soaked in excess water for 3 days at starter temperature of 350^{0}C.

Step 3: Water was decanted off the maize and rinsed thoroughly

Step 4: Maize grains were wet milled and sieved and the sediment allowed to settle.

Step 5: The water on the sediment were removed and the sediment was divided into 4 samples and preserved under different storage conditions.

Instrument used: The following instruments were used;

- Cellophane
- Covered plastic
- Refrigerator

Data collection: Corn paste was prepared from the samples (stated earlier) after 21 days and subjected to sensory evaluation by 10 member panel consisting of Home Economics. Their responses on the sensory qualities of the samples were recorded.

Chemical Analysis: At interval of seven days for duration of 21 days, corn paste (*Ogi*)) samples were analyzed for changes in pH and acidity using the Association of Analytical Chemist (AOAC) (1996) standard of analysis. Results obtained were later analysed using pair comparison test method adapted from Ihekoronye and Ngoddy (2009) and/or Analysis of Variance (ANOVA) statistical tool.

The storage conditions used in preserving the samples are enumerated below:

Sample A: Wet Corn paste (*Ogi*) kept in covered plastic and stored under ambient temperature

Sample B: Wet Corn paste (*Ogi*) kept in sealed cellophane and stored under ambient temperature

Sample C: Wet Corn paste (*Ogi*) kept in covered plastic and stored in a refrigerator

Sample D: Wet Corn paste (*Ogi*) kept in sealed cellophane and stored in refrigerator.

All samples were kept for 21 days and microbial counts done in 7 days intervals.

Data collected were analysed using pair comparison test method adapted from Ihekoronye and Ngoddy (2009). Test of significant difference ($p < 0.05$) among the samples were done using ANOVA (Analysis of Variance) statistical tool.

Determination of pH: This was carried out using the pH meter. The pH meter was standardized using a buffer solution o pH7 and pH4. After standardizing, the pH electrodes were rinsed thoroughly with distilled water. It was later dipped into each of the samples one after the other. The readings were then taken and recorded. This was repeated three times to ensure a constant reading.

Determination of Titrable Acidity: The titrable acidity were determined by pipetting 10ml of the sample into the conical flask and adding the drop of 0.1% Phenolphthalein indicator and titrating to an end point (pink) with 0.1m sodium hydroscide (NaoH).

Sensory Quality evaluation: The sensory qualities of the samples were analysed using a 9 point hedonic scale on degree of likeness of the samples in respect to colour, flavour/aroma, taste and overall. The responses were analyse with Analysis of Variance.

Findings of the Study

Result of an evaluation of the pH content of the samples (corn paste) under different storage conditions) is presented in Table 1. Evidence on Table 1 reveals that there was no significant difference in the pH content of the wet corn paste (*Ogi*) kept in covered plastic (A) and sealed cellophane (B) (kept within the same time period) stored under ambient temperature.

Table 1: Result of analysis of wet Corn paste (*Ogi*) under different storage conditions

Storage conditions parameters	Samples	Days in storage			
pH (%)		**0**	**7**	**14**	**21**
	A	5.90^{a}	4.68^{b}	3.75^{c}	3.32^{c}
	B	5.90^{a}	4.53^{b}	3.60^{c}	3.25^{c}
	C	5.90^{a}	5.20^{a}	4.53^{b}	4.03^{b}
	D	5.90^{a}	5.15^{a}	4.40^{b}	4.00^{b}
Acidity (%)	A	0.0675^{a}	0.0698^{a}	0.0705^{b}	0.0712^{b}
	B	0.0675^{a}	0.0697^{a}	0.0710^{b}	0.0715^{b}
	C	0.0675^{a}	0.0685^{a}	0.0688^{a}	0.0685^{a}
	D	0.0675^{a}	0.0683^{a}	0.0692^{a}	0.0680^{a}

Values with the same alphabetical letter along the same Column do not differ significantly by $p<0.05$ stored under different storage conditions.
Source: Field survey, 2012

With respect to sensory evaluation of corn paste (*ogi*) presented in Table 2, it is evident that significant difference existed in the colour wet corn paste stored in covered plastic and kept under ambient condition and those stored in refrigerator. The same difference was noticed in the taste, aroma/flavor and overall acceptability of the two samples.

Table 2: Sensory Evaluation of Corn paste (*Ogi*) Pap with different treatments

	SAMPLES			
Sensory quality	**A**	**B**	**C**	**D**
Colour	6.80^{a}	6.31^{a}	7.55^{b}	8.31^{c}
Taste	6.51^{a}	6.13^{a}	7.50^{b}	8.19^{c}
Aroma/flavour	6.55^{a}	6.44^{a}	7.84^{b}	8.19^{c}
Overall acceptability	6.40^{a}	6.31^{a}	8.20^{c}	8.50^{c}

Values with the same alphabetical letter along the same row do not differ significantly by $p<0.05$ stored under different storage conditions.
Source: Field Survey, 2012

The study result presented in Table 3 shows the corn paste (*Ogi*) sample stored in the refrigerator had reduced fungi, bacterial counts which indicated that the refrigeration temperature reduced or inhibits the fermentation processes of the Corn paste (*Ogi*) samples. A high bacterial count and fungal count was observed in samples A and B which were stored at ambient temperature where, it is believed that short storage condition is likely to increase the fermentative microorganisms thus leading to increased the microbial counts

Table 3: Microbial count of Corn paste (*Ogi*) Pap with different treatments

	SAMPLES			
Microbial Count	**A**	**B**	**C**	**D**
Bacterial count	3.2×10^{5}	4.0×10^{6}	2.0×10^{5}	1.5×10^{6}
Fungi count	2.0×10^{3}	2.5×10^{4}	1.0×10^{3}	1.2×10^{4}

Values with the same alphabetical letter along the same row do not differ significantly by $p<0.05$ stored under different storage conditions. Source: Field Survey, 2012

Discussion of Findings

It was found from the study that there was no significant difference in the pH content of the wet Corn paste (*Ogi*) kept in covered plastic (A) and sealed cellophane (B) (kept within the same time period) stored under ambient temperature. The pH content however significantly differ between Corn paste (*Ogi*) kept for 7 days and 14 days. In the same vein, results in evidence from the study shows that there was no significant difference ($p < 0.05$) in the pH content of wet Corn paste (*Ogi*) stored, within the same time period, in refrigeration irrespective of whether it was sealed in cellophane or covered in plastic. However, the pH content seemed to reduce with increase in storage period from 7 through 14 days under the same condition Although further reduction was noticeable in day 21, it was not significant ($p <0.05$). The implication of this is that the pH content of wet corn paste (*Ogi*) is significantly influenced not only by temperature but also by duration of storage. A producer/maker of corn paste therefore needs to take into consideration both temperature and duration of storage to avoid sourness and hazardous bacterial infestation.

The study results show that no significant difference occurred ($p < 0.05$) in the Acidity of wet corn paste (*Ogi*) until the 14th day of treatment irrespective of the storage condition (either kept in refrigeration or in ambient temperature). Besides, further, but insignificant, reduction was noticed in day 21. Results from the study also indicate that acidity level of wet corn paste (*Ogi*) is a function of period of storage and storage condition within 7-14 days.

The bacterial counts were found to be much more in wet corn paste (*ogi*) kept in sealed cellophane and stored under ambient condition than any of the other samples. This implies that keeping corn paste (*ogi*) under ambient condition constitutes greater health hazards to consumers of the products and should be avoided as much as possible.

Significant difference ($p <0.05$) was found in the level of acceptability of colour, taste and aroma of wet corn paste (*Ogi*) kept in sealed cellophane and kept under ambient temperature (B), wet corn paste (*Ogi*) kept in covered plastic (C) or sealed cellophane (D) and stored in refrigerator. Corn paste (*Ogi*) kept in sealed cellophane and stored in the refrigerator was the most accepted with respect to colour and taste. However, the sample kept in covered plastic and stored in the refrigerator was accepted with regards to flavour/taste probably due to lactic acid fermentation which resulted in the sourness of the corn paste (*Ogi*) sample. This implies that to maximize degree of likeness of corn paste (*ogi*) by consumers (most especially students), the corn paste *(Ogi)* should rather be kept in sealed cellophane and refrigerated.

Conclusions

From the research findings, it is concluded that corn paste (*Ogi*) kept in covered plastic and sealed cellophane stored under ambient temperature had pH content reduced significantly from 7 through 14 days. No significant difference was found to occur in the Acidity of wet corn paste (*Ogi*) until the 14th day of treatment irrespective of the storage condition (either kept in refrigeration or in ambient temperature). Corn paste (*Ogi*) sample stored in the refrigerator had reduced fungi and bacteria counts when compared with samples stored in ambient condition which indicated that the refrigeration temperature reduced or inhibits the fermentation processes of the corn paste (*Ogi*) samples. Corn paste (*Ogi*) kept in sealed cellophane and stored in the refrigerator was found to be the most accepted with respect to overall acceptability. Conclusively, corn paste should rather be kept in sealed cellophane and refrigerated for better performance.

Recommendation

Based on the study conclusion, it recommended that wet corn paste (*Ogi*) be kept in sealed cellophane and refrigerated for better preservation, sensory qualities and consumption.

References

Adegoke, S. (2004). Dietary fiber and coronary heart diseases. *Food Science and Nutrition 29,* 95.

Akinrele, T.A. (2001). Sugar changes in fermenting sorghum during preparation of *ogi-baba* gruel, *Journal of food and agriculture, 2,* 95-98.

Akinrele, T.A. (2002) fermentation studies on maize during the preparation traded local African foods. *Journal of Agric. Sci., 1,* 10-13.

Akinrele, T.A. (2006) Biochemical study of the traditional method of preparation of *ogi* and its effects on nutritive value of corn. Ph.D. thesis, University of Ibadan, 23-26

Chavan, J.K. and Kadam, S.S. (2008). Nutrition improvement of cereals by fermentation. In: criteria review. *Food science and nutrition 28,*349-400.

Chaven, J.K. and S.S Kadam (2003). Nutrition improvement of cereals by fermentation. CRC critical review. *Food Science and Technology, 28*(5), 349.

Hamand, A.O. and E.S. Field (2009). Fermentation of maize (Zea Mays) meal for *mawe* production in Benin: Physical, chemistry and microbiological aspects. Ph.D. Thesis, Agricultural University, Wageningen, 102.

Ikekoronye, I.A. and Ngoddy, P.S. (2009). An evaluation of corn paste nutritional composition and sensory qualities in Abia State. *Journal of food nutrition, 2*(3), 13-17.

John O. Okara and Osita O. Lokoyi (2012 developing an efficient method for *corn paste (Ogi)* production: towards educating the rural women. *The Nigerian Journal of Research and Production, 20*(1),1-7.

Mitchell, P. and Ingro, B.E. (2007). Cereal breeding and varietal testing. *British Food Journal, 96,* 11.

Oke, O.L. (2001). Chemical changes in the Nigeria foodstuff "ogi". *Food Technology, 21,* 202-204

Olukoya T.O., Adeojo, A.S. and Omotunde, A.P. (2011). Production of dogik: an improved *ogi* (Nigerian fermented weaning food) with potentials for the use in diarrhea control. *Journal of Tropical Pediatrics, 40,* 108-114.

Omemu A.M. and Adeosun O.F. (2010). Evaluation of hazards and critical control points of *corn paste (Ogi)* in small scale processing centres in Abeokuta, Nigeria. *J. Appl. Biosci. 2010,* 1766-1773

Omemu, A.M. (2011). Fermentation dynamics during production of *corn paste (Ogi)*, a Nigerian fermented cereal porridge. *Report and Opinion,3*(4), 8-17

Umo, V. & Fields, M. L. (1981). Fermentation of corn for Nigerian agidi. *Food Science Journal*, 46: 903-908.

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Adolescents' Perceptions of Heterosexual Behaviour

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Abstract

The purpose of the study was to investigate adolescent students' perceptions of what constitute the norm with regards to adolescents' heterosexual behaviours. The study was conducted in Nsukka L. G. A. of Enugu state, Nigeria. The descriptive survey research design was used for the study. The population of the study comprised all secondary school students in government secondary schools in Nsukka L.G.A. of Enugu state, Nigeria. A sample of 600 students was used for the study. Questionnaire was used for data collection. The result of the study shows that the students perceived that most adolescents engage in sexual activities, share sexual partners, and take sex as the basis of all relationships. There were significant differences in the mean perception of; male and female students, junior and senior students and students of various age groups on the item that states that most secondary students' maintain relationship without sex. It was recommended among others that sexuality education should be introduced to children early in life by their parents and teachers before they form negative opinions.

Key Words: Adolescents, Perception, Heterosexual, Education, Norm.

Introduction

Addressing issues relating to adolescent sexuality is critically important to reducing the excessive burden of Human Immunodeficiency Virus (HIV) and other Sexually Transmitted Infections (STIs) among this group (Kalembo, Zgambo & Yukai, 2013). A common feature of adolescents and other young people in Nigeria is their potential vulnerability to STIs including HIV (Imaledo, Peter-Kio & Asuquo, 2012). Nigeria is one of the countries in the sub-Saharan African region and this region records the highest prevalence of HIV worldwide (UNAIDS, 2012a). The leading route of HIV transmission in Nigeria is heterosexual sex, which accounts for over 80 percent of HIV infections (Federal Republic of Nigeria, 2012). Nearly half (48.6%) of Nigerian adolescents aged 15-19 are sexually active (National population commission 2008) predisposing them to HIV and other STIs. Therefore it is not surprising that it has been reported that 75 percent of all new cases of HIV in the sub-Saharan African region are found among young women and girls between ages 15–24 years (Global Health Council, 2007).

The Joint United Nations Programme on HIV/AIDS (UNAIDS) reported that there are 1.6 billion people aged 12-24, the largest generation of adolescents and young people ever (UNAIDS, 2012b). Adolescents naturally experience intense increase of sexual urge and they battle with new and often mysterious emotions and thoughts that accompany this experience (Papathanasiou & Lahana). They consequently adopt attitudes and values that will help them resolve these emotions based on their perception of what constitute the acceptable standard of sexual behaviour. Their perceptions of the norms in terms of sexual lifestyle of other adolescents influence their decision about their own sexual behaviours (Li, Ding, Wu, Rotheram-Borus, & Guo, 2011). This is supported by the research findings of Eggermont (2005) who noted that adolescents who had more sexual experience believed that their peers had significantly more sexual experience. Normative beliefs are an important psychosocial variable linked to individual health-related behaviors (Olds, Thombs, Tomasek, 2005). Therefore, in order to enhance prevention of HIV and other STIs among adolescents, there is need to understand their perceptions of other adolescents' sexual lifestyle.

Efforts at preventing HIV have not given adequate attention to social structures and norms that frame sexual roles and individual behaviour (McLellan-Lemal et al., 2013). Peer sexual norms play an important role in sexual behaviour of adolescents (Sychareun, Thomsen, Chaleunvong and Faxelid, 2013). Literature has shown that certain relational schemas such as; unprotected sex is symbolic of intimacy, romance, and trust; may expose adolescents and other youths to the risk of HIV and other STIs (McLellan-Lemal et al, 2013). By examining such normative believes and perceptions, this study has been able to provide a better understanding of the underlying facilitators and barriers to adopting HIV risk-reduction practices and consequentially suggests strategies for instituting healthy sexual values in adolescents.

The increased involvement of adolescents in premarital sex in Nigeria and many other societies of the world have been associated with weakened traditional values like sex for procreation and increased acceptance of sex for pleasure. The traditional conceptions of linking love and marriage have been challenged and there has been a growing public acceptance of casual sex, multiple sexual partners, and even commercial sex (Li, Ding, Wu, Rotheram-Borus, & Guo, 2011). The cultural practices that encourage virginity before marriage has been eroded and adolescents engage in sexual practices which they perceive to be the norm among their peers. It is not surprising therefore that the level of sexual activity and the incidence of STIs are high among Nigerian adolescents (Temin, Okonofua, Omorodion, Renne, Coplan, Heggenhougen, & Kaufman, 1999; Enebechi, and Nwagu, 2013)

Risky sexual practices among adolescents such as unprotected sexual intercourse result not only to STIs but also to unwanted pregnancy and dropping out of school. Poor education on the other hand reduces the likelihood that young women can develop their full human potential, adapt to changing economic circumstances, obtain well-paying work outside the home, contribute to their family's well-being and play an active role in social development (Sedgh, Bankole, Okonofua, Imarhiagbe, Hussain, and Wulf, 2009). Factors such as the adolescents' age, gender and level of education are capable of influencing adolescents' perception of what constitute the norm among adolescents with regards to their sexual practices.

Purpose of the study

The major purpose of this study was to examine adolescents' perception of the heterosexual behaviour of adolescents. Specifically, the study determined;

1. Male and females students' perception of adolescents' heterosexual behaviour.
2. Junior and senior secondary school students' perception of adolescents' heterosexual behaviour.
3. Perception of students of varied age of adolescents' heterosexual behaviour.

Research Questions

1. What are the perceptions of male and female students about adolescents' heterosexual behaviour?
2. How do junior and senior secondary school students perceive adolescents' heterosexual behaviour?
3. What are the perceptions of students of varied age of adolescents' heterosexual behaviour?

Hypotheses

Three null hypotheses tested at P ≤ .05 level of significance guided the study.

Ho_1: The mean perception of male and female students of adolescents' heterosexual behaviour is not significantly different.

$Ho_{2:}$ There is no statistically significant difference in the mean perception of junior and senior secondary students of adolescents' heterosexual behaviour.

$Ho_{3:}$ The mean perception of students of adolescents' heterosexual behaviour does not significantly differ by age.

Methodology

***Design of the study*:** Descriptive survey research design was used to study adolescents in public secondary schools in Nsukka L.G.A.

***Population for the study*:** The population for the study comprised 355,028 students in public secondary school in Enugu state of Nigeria. (This data was from the Statistic Unit Post Primary School Management Board – PPSMB, Enugu, 2013).

Sample for the study: One boys', one girls' and one coeducational secondary schools from all the government secondary schools in Nsukka L.G.A. were selected for the study through the purposive sampling technique. From the selected schools, 200 students were select through simple random sampling giving a total of 600 adolescent students.

***Instrument for Data Collection*:** Questionnaire was used for data collection. The questionnaire consisted of two sections. Section one was used to collect information about the students' personal data and section two was used to collect information on the students' perceptions of adolescents' sexual behaviour. The instrument was validated by three experts from the University of Nigeria, Nsukka (two in the area of Health Education and one in the area of Educational Measurement and Evaluation). After the validation, recommendations of the experts were incorporated into the instrument. Cronbach alpha statistic (coefficient alpha) was use to determine the internal consistency of the instrument. The computation yielded an alpha of .78. This was considered reliable.

Method of Data Collection: Six hundred copies of the questionnaire were distributed by hand. The completed questionnaire was collected on the spot. Four trained research assistants assisted the researcher in the distribution and collection of the data. Of the 600 copies of the questionnaire, only 579 copies of the questionnaire (96.5 %) were properly completed. Only these were used for data analysis.

Method of Data Analysis: Data were analyzed using mean for the research questions. The t-test and ANOVA were used to test the hypotheses at the 0.05 level of significance.

Findings of the Study

Table 1: Mean Responses and t-test analysis of the differences in the mean perceptions of male and female respondents of Sexual Behaviours of Adolescents.

Item No.	Sexual Behaviour Perception Indices	$\bar{x}_1$	$\bar{x}_2$	$\bar{x}g$	SD_1	SD_2	t-test	p	Remark $\bar{x}g$	Remark t-test
	Most secondary school students:									
1.	Engage in sexual activity	3.45	3.47	3.46	.79	.61	-.27	.78	A	NS
2.	Have only one sex partner	2.75	1.88	2.28	.87	.80	10.10	.00	D	S
3.	Share sexual partners	3.07	2.98	3.02	1.10	.75	1.02	.30	A	NS
4.	Use condom for sex	3.44	3.22	3.32	.83	.52	3.16	.00	A	S
5.	Abstain from sex	2.69	3.10	2.91	1.05	.80	- 4.36	.00	A	S
6.	Maintain relationship with out sex	2.61	3.33	3.00	1.22	.67	-7.26	.00	A	S
7.	Take sex as the basis of all relationship	2.92	2.90	2.91	1.15	.97	.25	.80	A	NS

$\bar{x}_1$= mean for males; $\bar{x}_2$ = mean for females; $\bar{x}g$ = grand mean; SD_1 = standard deviation for male; SD_2 = standard deviation for females. Number of Males =176; females = 207; total = 383

Table 1 shows the grand mean perception of students on all the items. All the items had means above the criterion mean of 2.5 with exception of item 2. The students therefore perceive all the item statements to be correct. They did not disagree that most students have only one sex partner.

The table also reveals that significant differences exist in male and female students' perception of adolescents' heterosexual behavior with regard to most students having only one sex partner, use of condom, abstinence from sex and maintaining relationship without sex. While the male students perceive that most students have one sex partner ($\bar{x}$ = 2.75), female students did not perceive this ($\bar{x}$ = 1.88).

Table 2: Mean Responses and t-test analysis of the differences in the mean perceptions of junior and senior secondary students of Sexual Behaviours of Adolescents.

Item No.	Sexual Behaviour Perception Indices	$\bar{x}_1$	$\bar{x}_2$	$\bar{x}_g$	SD_1	SD_2	t-test	p	Remark $\bar{x}_g$	Remark t-test
	Most secondary school students:									
1.	Engage in sexual activity	3.55	3.31	3.46	.60	.83	10.00	.00	A	S
2.	Have only one sex partner	2.23	2.36	2.28	1.02	.77	1.73	.19	D	NS
3.	Share sexual partners	3.03	3.00	3.02	.91	.96	.12	.74	A	NS
4.	Use condom for sex	3.36	3.26	3.32	.55	.87	2.03	.16	A	NS
5.	Abstain from sex	2.97	2.82	2.91	.95	.94	2.21	.14	A	NS
6.	Maintain relationship with out sex	3.17	2.73	3.00	.86	1.22	17.00	.00	A	S
7.	Take sex as the basis of all relationship	2.97	2.82	2.91	1.02	1.12	1.77	.18	A	NS

$\bar{x}_1$= mean for Junior Secondary students; $\bar{x}_2$ = mean for Senior Secondary students; $\bar{x}_g$ = grand mean; SD1 = standard deviation for Junior Secondary students; SD_2 = standard deviation for Senior Secondary students. Number of Junior Secondary students =240; Senior Secondary students = 143; total = 383

Table 2 shows that significant differences exist in junior and senior students' perception of adolescents' heterosexual behaviours in two out of the seven statements. The differences in perceptions are with regard to most students engaging in sexual activity and most students maintaining relationship without sex. Although both junior and senior students perceived that most students engage in sexual activity, the junior students perceived this more ($\bar{x}$ = 3.55) than the senior students ($\bar{x}$ = 3.31).

Table 3: Analysis of Variance (ANOVA) of the Mean Perceptions of the Respondents on Sexual Behaviours of Adolescents by Age

Item Non	Sexual Behaviour Perception Indices	$\bar{x}_1$	$\bar{x}_2$	$\bar{x}_3$	$\bar{x}_g$	F-cal	p	Remark $\bar{x}_g$	Remark **F-cal**
	Most secondary school students:								
1.	Engage in sexual activity	3.53	3.41	3.46	3.46	1.18	.31	A	NS
2.	Have only one sex partner	2.25	2.36	2.17	2.28	1.21	.30	D	NS
3.	Share sexual partners	3.06	3.07	2.83	3.02	2.01	.14	A	NS
4.	Use condom for sex	3.49	3.06	3.65	3.32	29.96	.00	A	S
5.	Abstain from sex	3.25	2.92	2.33	2.91	25.62	.00	A	S
6.	Maintain relationship with out sex	3.31	3.15	2.17	3.00	40.03	.00	A	S
7.	Take sex as the basis of all relationship	3.06	2.76	3.00	2.91	3.37	.035	A	S

$\bar{x}_1$= mean Students aged 11 – 14 years; $\bar{x}_2$ = mean for Students aged 15 - 17 years; $\bar{x}_3$ = mean Students aged 18 years and above; $\bar{x}g$ = grand mean; Number of students aged 11 – 14 years = 128; Students aged 15 – 17 years = 177; Students aged 18 years and above = 78; Total = 383

Table 3 reveals that significant differences exist among students of various ages with regards to their perception of adolescents' heterosexual behaviours in four out of the seven statements. The differences in perception are with statements that most students; use condom for sex, abstain from sex, maintaining relationship without sex and take sex as the basis of all relationships.

Discussion of Result

Findings of this study from Table 1 show that the students perceived that most students engage in sexual activity. This explains the rising incident of adolescents' involvement in sexual activities. Research studies have shown that most adolescents in Nigeria are sexually active (Temin, Okonofua, Omorodion, Renne, Coplan, Heggenhougen, & Kaufman, 1999; Enebechi, and Nwagu, 2013). The finding of this study is therefore not surprising because it has been shown that adolescents' perception of what is the norm amongst their peers has great impact on their own behavior (Li, Ding, Wu, Rotheram-Borus, & Guo, 2011). The students also disagree that most students have only one sexual partner ($\bar{x}_g$ = 2.28). In other words they perceive that most students have more than one sexual partner. This is a negative perception which is capable of increasing the incidence of sexually transmitted infections. This is because students who have such perception will see nothing wrong in their having multiple sexual partners themselves since this is norm amongst their peers. Such negative perception poses a challenge to sustainable healthy sexual lifestyle among adolescents. Another negative perception as shown in table 1 is that the students perceived that students share sexual partner. It will not be surprising therefore to find these students also sharing sexual partners since they perceive this as the norm among other adolescents. Sharing of sexual partners however caries the risk of spreading sexually transmitted diseases including HIV/AIDS.

The students also have some positive perceptions of adolescents' sexual behaviours. The students perceive that most students use condom for sex (Item 4) and that most students maintain relationships without sex (Item 6). This is encouraging and is line with the report of UNESCO, (2009) that a growing number of countries are scaling up sexuality education programmes, including Nigeria. It is also of interest to note that the male students perceived significantly more than the female students (p = .00) that most secondary students use condom for sex. This reflects the discrepancy in knowledge, attitude and practices of males and females in issue relating to their sexuality. This is supported by Zimmer-Gembeck and Helfand (2008) who found that males, in addition to being more sexually active, also hold more permissive sexual attitudes than females. In fact the above authors noted specifically that females are more committed to abstinence and less likely to approve of premarital sex than are males.

The result in Table 2 also shows significant differences in the perceptions of junior and senior students on the item 1 (most secondary school students engage in sexual activity and on item 6 (most secondary school students maintain relationship with out sex). The junior students perceived that most secondary students engage in sexual activity more ($\bar{x}$ = 3.55) than the senior students ($\bar{x}$ = 3.31). This negative perception among junior secondary school students is worrisome. The junior students' mean response is contradicted by the high mean perception to item 6 (most secondary school students maintain relationship without sex $\bar{x}$ = 3.17) which is significantly higher than senior students mean perception on this item ($\bar{x}$ = 2. 73). These contradicting mean responses to these two items may indicate that the junior students were unsure of students' involvement in sexual activity and they have not formed an opinion on this. They are therefore more amenable to change since they have not formed a firm opinion. Hence it is will be easier to get the junior students adopt positive and sustainable sexual lifestyle than getting the senior students to change from an already established lifestyle.

Table 3 shows significant differences in the perceptions of students of various age groups in four out of the seven items. Three of these four items are positive items and from these positive items, the oldest students perceived most that most secondary students use condom for sex, while the youngest students perceived most that most students abstain from sex and that most students maintain relationship without sex. This is not surprising since sexual experiences increases with age. Again, Eggermont (2005) purported that those adolescents who had more sexual experience believed that their peers had significantly more sexual experience. It is not surprising then to observe in this study that the oldest students perceived most that most adolescents us condom for sex. This goes to affirm that the older adolescents were sexually active and most of them use condom. On the other hand, the youngest adolescents perceived most that adolescents' students abstain from sex and that most students maintain relationship without sex. This might also be a reflection of the fact that these younger adolescents were not yet sexually active. This is encouraging as UNESCO (2009) noted that one of the challenges of sexuality education is to reach young people before they become sexually active. It is therefore easier to educate the younger adolescents who probably have not become sexually active than the older ones who already have an active sexual lifestyle.

Conclusions

What people perceive to be the norm among their counterparts influences their behaviour Adolescents who perceive that most adolescents engage in sexual activities and share sexual partners are more likely to engage in such activities than those who do not perceive such. The younger adolescents who perceived that most adolescents' students abstain from sex and that most students maintain relationship without sex are more likely to accept abstinence as an ideal way of life prior to marriage. Therefore sex education should be stated early and should tackle all negative sexual perception that can lead to negative sexual behaviours among adolescents.

Recommendations

- Parents should be involved in sex education of their children. They should commence sex education early for their children and continue this through the adolescent years. Parenting practices such as monitoring, support, and sexual communication between parents and adolescents should be encouraged because such practices have been shown to positively affect adolescents' sexual perceptions and behaviours (Barber, Stolz & Olsen, 2005; Longmore, Eng, Giordano & Manning, 2009; Markham, Lormand, gloppen,, Peskin, Flores, Low, & House, 2010). The higher the quality of parent-child relationships, the lower the odds of young males having multiple sexual partners. Parents should reinforce traditional moral values that place emphasis on virginity and links love to marriage (**Sidze** & **Defo, 2013)**.

- Sex education should be encouraged particularly at the basic level of education when children and adolescents are still forming their views about sexual relationships. It should be part of core subjects in the school. Dienye (2011) pointed out that youths fall prey to the consequences of poor sexuality and sex education due to societal reactions to issues that bother on sexuality. Adolescents want to know more about practical issues such as copulation, conception, pregnancy, birth control and sexually transmitted diseases. This will help them to know how to place sex within their own frame of values so that they can be able to establish satisfactory and constructive relationships with individuals of the same sex and the opposite sex. Papathanasiou and Lahana (2007) observed that most young people receive very little help on these issues from the controversial, full of conflicts and hypocrisy world they live in. Teachers should provide honest answers as well as address negative normative perceptions of students as these are capable of influencing students own behaviours.
- Adequate laws and policies should be put in place to encourage sex education. The sensitive and sometimes controversial nature of sexuality education makes it important that supportive and inclusive laws and policies are in place. These will serve to demonstrate that the provision of sexuality education is a matter of institutional policy rather than the personal choice of individuals (UNESCO, 2009).
- Adolescent involvement in sex education: Teachers should make use of participatory teaching methods that actively involve students and help them internalize and integrate what they have learnt into their way of life. Trained peer educators should be used to give sex education. People are more likely to hear and personalize messages, and thus to change their attitudes and behaviors, if they believe the messenger is similar to them and faces the same concerns and pressures (Sriranganathan et al., 2010).

References

Barber, B. K., Stolz, H. E. & Olsen, J.A. (2005). *Parental support, psychological control, and behavioural control: relevance across time, culture, and method*. Boston: Wiley-Blackwell.

Dienye, V. U. (2011). The Educational and Social Implications of Sexuality and Sex Education in Nigerian Schools. *African Journal of Social Sciences,* 1 (2) 11- 19.

Eggermont, S. (2005). Young adolescents' perceptions of peer sexual behaviours: the role of television viewing. Child: Care, Health and Development, 31 (4), 459 - 468.

Enebechi, J. C. & Nwagu, E. N. (2013). HIV-Related behavior among Nigerian in-school rural adolescents. Nigerian Journal of Health Promotion 6, 128 - 139.

Federal Republic of Nigeria, (2012). Global AIDS Response - Country Progress Report. Retrieved May 12, 2013 from http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/Nigeria%202012%20GARPR%20Report%20Revised.pdf

Global Health Council. (2007). Strengthening PEPFAR for women and girls. Policy brief. Washington, DC. Retrieved October 11, 2011 from http://www.globalhealth. org/images/pdf/pepfarbrief.pdf.

Imaledo, J. A., Peter-Kio, O. B. & Asuquo, E. O. (2012). Pattern of risky sexual behavior and associated factors among undergraduate students of the University of Port Harcourt, Rivers State, Nigeria. *The Pan African Medical Journal,* 12; 12: 97. Online. Retrieved http://www.panafrican-med-journal.com/content/article/12/97/full/

Kalembo, F.W., Zgambo, M. & Yukai, D.(2013) Effective Adolescent Sexual and Reproductive Health Education Programs in Sub-Saharan Africa. *Californian Journal of Health Promotion 11* (2), 32-42.

Li, L., Ding, Y. Y, Wu, Z., Rotheram-Borus, M. J. & Guo, S. (2011). Normative Beliefs and Sexual Risk in China. *AIDS and Behavior, 15* (6), 1251–1258.

Longmore, M. A., Eng, A. L., Giordano, P. C. & Manning, W. D. (2009). Parenting and adolescents' sexual initiation. *Journal of Marriage and Family*, *71,* 969–982.

Markham, C. M., Lormand, D., Gloppen, K. M., Peskin, M. F., Flores, B., Low, B. & House L. D (2010). Connectedness as a predictor of sexual and reproductive health outcomes for youth. *Journal of Adolescent Health, 46,* 23–41.

McLellan-Lemal**, E.,** Toledo, L., O'Daniels, C.**,** Villar-Loubet**, O.,** Cathy Simpson**, C.,** Ada, A., Adimora**, A. A. &** Marks, G. (2013). "A man's gonna do what a man wants to do": African American and Hispanic women's perceptions about heterosexual relationships: a qualitative study. *BMC Women's Health,* **13**:27 doi:10.1186/1472-6874-13-27. Retrieved May 12, 2014 from http://www.biomedcentral.com/1472-6874/13/27

National Population Commission (2009). Nigeria Demographic and Health Survey 2008. Abuja, Nigeria.

1.1 Olds, R.S., Thombs, D. L., Tomasek, J.R. (2005). Relations between normative beliefs and initiation intentions toward cigarette, alcohol and marijuana. Journal of Adolescents Health, 37 (1):75. doi: 10.1016/j.jadohealth. 2004.09.020.

Papathanasiou I., Lahana E.1. (2007). Adolescence, Sexuality and Sexual Education. *Health Science Journal 1* (1). Online. Retrieved May 12, 2014 from http://www.hsj.gr/index.files/VOLUME1_1.htm

Sedgh, G., Bankole, A., Okonofua, F., Imarhiagbe, C., Hussain, R. & Wulf, D. (2009). *Meeting Young Women's Sexual and Reproductive Health Needs in Nigeria,* New York: Guttmacher Institute.

Sidze, E. M. & Defo, B. K. (2013). Effects of parenting practices on sexual risk-taking among young people in Cameroon. *BMC Public Health,* doi:10.1186/1471-2458-13-616 Retrieved August 10, 2013 from http://www.biomedcentral.com/1471-2458/13/616

Sriranganathan, G., Jaworsky, D., Larkin, J., Flicker, S., Campbell, L., Flynn, S., Janssen, J. & Erlich, L. **(**2010**).** Peer sexual health education: Interventions for effective programme evaluation. *Health Education Journal 71*(1) 62–71

Sychareun**,** V.**,** Thomsen**, S.,** Chaleunvong, K., & Faxelid, E. (2013). Risk perceptions of STIs/HIV and sexual risk behaviours among sexually experienced adolescents in the Northern part of Lao PDR. *BMC Public Health,* doi:10.1186/1471-2458-13-1126. Retrieved May 12, 2014 from http://www.biomedcentral.com/1471-2458/13/1126

Temin, M. J., Okonofua, F. E., Omorodion, F. O., Renne, E. P., Coplan,P., Heggenhougen, H. K. & Kaufman, J.(1999). Perceptions of Sexual Behavior and Knowledge About Sexually Transmitted Diseases Among Adolescents in Benin City, Nigeria. *International Family Planning Perspectives, 25* (4), 186-190 & 195

UNAIDS, (2012a). UNAIDS Report on the global AIDS epidemic. Geneva: UNAIDS.

UNAIDS, (2012b). Fact Sheet. Adolescents, young people and HIV http://www.unaids.org/en/media/unaids/contentassets/documents/factsheet/2012/20120417_FS_adolescentsyoungpeoplehiv_en.pdf

United Nations Educational, Scientific and Cultural Organization - UNESCO, (2009). International Technical Guidance on Sexuality Education volume 1. An Evidence-Informed Approach for Schools, Teachers and Health Educators. Retrieved September 16, 2013 from http://www.unfpa.org/webdav/site/global/groups/youth/public/International_Guidance_Sexuality_Education_Vol_I.pdf

Zimmer-Gembeck, M. J. & Helfand, M. (2008). Ten years of longitudinal research on U.S. adolescent sexual behavior: Developmental correlates of sexual intercourse, and the importance of age, gender and ethnic background, *Developmental Review, 28(2)*.

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Strategies for Promoting Peace Education among Youths

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Abstract

While it has been widely acclaimed that there can be no meaningful development in the midst of violent conflicts which characterize most societies in contemporary times, and the involvement of youths in violence, little has been done in applying theories into practice in the course to reduce harmful societal conflicts especially in utilizing peace education to achieve desired aims. This paper examines the need for peace education and youth re-orientation for sustainable development in the Niger Delta. It outlines strategies to enhance the teaching of peace education and also x-rays the role of the youth in national development while making policy recommendations at achieving sustainable development especially in the region through youth participation. The researchers assert the necessity for both in-school and out-of-schools approach for the teaching of peace education to be effective.

Keywords: Development, Peace, Education, Niger-Delta, Violence, Youth

Introduction

Violent conflicts have inflicted immeasurable damage on man and his environment, yet there seems no end to conflicts. Efforts to reduce the incidences of violent conflicts all around the world have included researches into the roles that young people play; and strategies to curb youth involvement in violence. In most cases, while youths have been identified as potential agents of societal transformation and development (Aluigba, 2010), the youths have also been spotted as instruments of violence (Faleti, 2004); creating an atmosphere not conducive for the sustenance of developmental initiatives. While social, cultural, and economic forces all contribute to young people being conscripted as agents of violence, these are reinforced by normative expectations in many societies and traditions that youths are – in some manner – inherently volatile, and even dangerous. As Friedenberg (1964) aptly observed in reference to one particular context, the 'teenager' seems to have replaced the Communist as the appropriate target for public controversy and foreboding.

Because of the vulnerability of youths to violence, developments in other sectors including the emergence of peace education, speak to the central role of youths to the global project of achieving peace. In the present world, an ideal global citizen is only the one who understands the importance of peace to his well-being and that of his neighbor. He acknowledges and respects the human rights of other people; and is prepared to work cooperatively to end poverty, to improve the health and well-being of the world's populations. He also aims to reclaim and protect the environment, and to effect peaceful co-existence among individuals, peoples and societies. Thus it is the responsibility of the society to raise the awareness of the individual towards the sole goal of peace for sustainable development.

The necessity for peace education was emphasized by a foremost Indian nationalist, Mahatma Gandhi when he once stated that if real peace is to be achieved, then we shall have to begin with the children. Achieving lasting peace for sustainable development depends on educating future generations into the competencies, perspectives, attitudes, values, and behavioral patterns that will enable them to build and maintain peace. Thus, this paper intends to examine the importance of peace education for youths in order to achieve sustainable development. Hence, to understand how to make peace education effective for sustainable development, it is first necessary to define the concepts of peace and peace education; understand the connection among development, violence, youths and peace, and the need for peace education. There is need also for knowledge of the components and strategies of enhancing peace education. Finally, the steps of conducting an effective and sustainable peace education must be understood.

Concept of Peace

Peace is not just the absence of wars; the real definition of peace emerged from the clarification given to violence and war, which could happen even in the absence of wars. According to Dasgupta (1968), violence is everything which prevents the full realization of innate somatic and mental human potentials; anything which produces a gap between the physical and mental potentials of human beings and their actual conditions. Therefore, from this perspective of violence, such factors as poverty, underdevelopment, oppression, human rights abuses and other social ills afflicting millions of people largely in developing countries can be seen as manifestations of violence; Tjosvold and Sun (2002) opined that the inherence of these factors in a society make people vulnerable to violent acts.

Peace therefore, can be described as the absence of violence, and not as the absence of war. Contemporary scholars have elaborated on this new definition of peace (Johnson and Johnson, 2006; Clark, 2001, Okolie-Osemene, 2012 and Faleti, 2004). They opined it is a political condition that ensures justice and social stability through formal and informal institutions, practices, and norms; several conditions must be met for peace to be reached and maintained (Kriesberg, 2002; Galtung, 1981).

According to Johnson and Johnson (2006), peace may be conceptualized as having two separate dimensions. On the first dimension, war, violence, and strife are at one end, at the other end are settlements, agreements, or common understandings that end or avert hostilities and violence. On this dimension, if war or violence is absent, then peace is assumed to exist. Thus, they defined peace as the absence of war or violence in a mutually beneficial, harmonious relationship among relevant parties (i.e., aspects of a person or among individuals, groups, or countries). Peace must be activated; building and maintaining peace takes active involvement. Generally speaking, these peace values can only be realized at the level of a domestic society or group within a state (Johnson and Johnson, 2003c).

Peace Education

Peace education has become an important and most effective means of peace building, especially for societies where there are inherent diversities. It is concerned with helping inhabitants of a particular society to develop an awareness of the process and skills that are necessary for achieving understanding, tolerance and goodwill required for peaceful co-existence. Tjosvold and Sun (2002) observed that peace education implies a process of examining and discussing our values and attitudes towards diversity, cultural differences, tolerance and human dignity, and directing our efforts towards achieving fundamental changes within societies. The people develop language and social interaction skills to promote peaceful relations among themselves, neighbours and the natural environment. (Wenden, 2004).

According to Johnson and Johnson's two dimensions of peace, peace education is teaching the information, attitudes, values, and behavioral competencies needed to resolve conflicts without violence and to build and maintain mutually beneficial, harmonious relationships (Johnson & Johnson, 2003c, 2005c, 2006). They noted that the ultimate goal of peace education is for individuals to be able to maintain peace among aspects of themselves (intrapersonal peace), individuals (interpersonal peace), groups (intergroup peace), and countries, societies, and cultures (international peace).

Most perpetrators of violence in the society fail to know why violence is not a means to an end; neither do they realize the essence of peace. As discreetly observed by Page (2008), peace education should be viewed as encouraging a commitment to peace as a settled disposition and enhancing the confidence of the individual as an individual agent of peace; as informing the student on the consequences of war and social injustice, the value of peaceful and just social structures and working to uphold or develop such social structures. It also involves encouraging the student to love the world and to imagine a peaceful future; and caring for the student and encouraging the student to care for others. Matsuura (2008) concludes that peace education is broadly defined as the educational policy, planning, pedagogy, and practice that develop awareness, skills, and values toward peace.

Need for Youth Peace Education

At the heart of violent acts is the youth who is already rendered vulnerable by the very ugly scenario created by the imbalances, injustices and intolerance in the society. While hungry and unemployed, the youth becomes a ready tool for prosecuting and unleashing terror on the society. In order to tackle the complex and interwoven problems that confront our society there is need to make the preventive measures and solutions to these problems deeply rooted in the minds of the populations. The need for peace education for youths cannot be over-emphasized; thus, they are enumerated below.

(i) Enshrining Tolerance in the midst of Diversities: Needless to say, the escalation of societal conflicts is rooted in diversity, which may be looked at in terms of economics, culture, politics, ethnicity, nationality, religion and gender among others. It is because of this diversity that there is a tendency for members of one group not to tolerate the views and actions of others (Johnson and Johnson, 2003c). In Nigeria, cultural and religious diversities have been grounds for violence; and youths have been tools to perpetrate violence (Aluigba, 2010; Faleti, 2004). This leads to a fight for dominance, the result of which is conflict and the consequential breakdown of peace. Hence peace education will teach tolerance and co-operation.

(ii) Raising awareness on Violence and Peace: The high rate of violence and crimes perpetrated by youths which have impeded the growth and transformation of the people and society; and the perceived lack of knowledge of the consequences of these acts have been blamed on lack of peace education. Faleti, (2004) noted that certain conditions make people to adopt controversial approaches to conflict; thinking it is a means to an end. Hence, when the minds of the youths have been eroded by unpatriotic and violent acts, the society is subjected to great dangers.

(iii) Patriotic consciousness: In Nigeria today, ethnic discrimination has become a chronic social menace, in fact a canker worm, which has eaten deep into the heart of Nigerians especially the youths. According to Adeoye, Ayinla & Muhammed (2006), discrimination based on ethnic nationality is common to all ethnic groups in Nigeria; and this has been manipulated and consolidated the younger generation (Akinyele, 2001). Tribalism emanates from the ethnocentric feeling of dominance, and if nothing is done to change the minds of the youth, danger portends for the country. There is the need to raise national interests above ethnic interests, as this breeds violent conflicts. As rightly opined by Tjosvold & Sun (2002), peace education helps to prepare young people to become good citizens with skills to promote peace, human dignity and above all, national survival**.**

(iv) Teaching conflict prevention and resolution strategies: Peace education helps to foster interdependence, integrative negotiation, co-operation and critical thinking before actions. Johnson and Johnson (2005c) observed that a strong sense of positive interdependence is required for peace, so individuals believe they are linked with others; so they cannot succeed unless the others do (and vice versa). For instance, using constructive controversy in schools teaches students how to engage in constructive political discourse (the formal exchange of reasoned views as to which of several alternative courses of action should be taken to solve a societal problem) in a democracy. Johnson and Johnson, 2003c; Paris, 2001), identified negotiation, problem solving techniques important for peace.

(v) Sustainable development: Wenden (2004) contends that there can be no long-term economic or social development on a depleted planet; thus, at the core of education for sustainable development is the utmost need to develop widespread understanding of the interdependence and fragility of planetary life, support social systems and the natural resource base upon which human well-being lies. Peace and development are interconnected; in fact research has shown that for meaningful development to be sustainable, there must an atmosphere of peace (Thomas, 2004; Chukuezi, 2009). As observed by UNESCO (2009), a great challenge to Nigeria's emergence from the shackles of socio-economic and political malaise and impairment is the scourge of violence perpetrated by 'helpless' youths.

Ways of Teaching Peace Education

Two major ways of teaching peace education to youths are discussed below. Osemene (2012) noted that peace education could be formal or informal; and Wenden, 2004 argued that the need for informal peace education is based on lack of access to formal education in some; especially developing countries.

(i) ***Formal peace education***: This encompasses school-based peace education programmes – carrying out activities in the areas of and improving the school environment; curriculum development (including the production of materials for teachers and children), pre-service teacher education, and in-service teacher education. Peace education is most effective when the skills of peace and conflict resolution are learned actively and are modeled by the school environment in which they are taught (Wenden, 2004). This creates a consistency between the messages of the curriculum and the school setting, between the overt and the 'hidden' curriculum. Manuals are used to guide teachers in using these curricula with primary, secondary and tertiary students. Adult literacy classes with stories and poems on peace themes, sports and physical education have also been identified as vehicles for developing skills and attitudes of peace (UN, 2007).

(ii) Informal peace education: The targets here are the out-of-schools youths. Hence, youth forums, clubs, trainings, workshops, community campaigns/ sensitizations, sport/recreation facilities / activities and stakeholders' participation are ways to propagate the message of peace to youths. Forums that seek to bring youths from diverse ethnic and religious groups help to teach such youths techniques and the need to manage their differences. Tjosvold & Sun (2002) observed that irrespective of religious and ethnic affiliations, sports and recreation programmes that focus on building teamwork, cooperation, sportsmanship, and decision-making skills are part of the peace education programme that increase coping skills.

Factors militating against peace education

A lot of factors have hindered the effective teaching of peace education and these are analyzed below**:**

(i) Choice of approach in curriculum development: From the very beginnings of the development of systematic peace education, there has been discussion about whether it should be added as a separate program in the schools, or if the principles of peace education should be applied through the regular school subjects. The variety of approaches and attitudes on what peace education actually is, leads to the introduction of a series of titles, such as multicultural training, education for democracy and human rights, and education for development.

(ii) Inadequate resources: The introduction of peace education in the school curriculum presents a challenge of material resources. Lack of resources like relevant textbooks, teaching manuals, facilities required for recreational activities etc to be used in the teaching and learning of this subject in schools and out-of-schools camper peace education efficacy. Kester (2008) noted that a country's resources may affect education on peace.

(iii) Inadequate manpower: Unskilled and inadequate teachers and other specialist personnel like curriculum consultants and the civil society may affect the teaching of peace education. Wenden (2004) opined that many if not most teachers and those who act as advocates for peace have never had access to a curriculum consultant or required knowledge for this task. Johnson & Johnson (2003c) opined that most teachers especially in poor countries have limited access to training facilities and special skills for teaching peace education; and this has impeded the teaching of peace education.

(iv) Non-utilization of new technologies: Youths spend more of their time on the internet as a result of the revolution in ICT; Livingstone et al (2011) noted that 93% of young people aged between ages 9-16 are online every week in Europe and 60% daily; these trends do not extricate the developing societies, as there is rising exposure to the internet through several means. Unfortunately, the teaching of peace education through this medium that has large followers among youths has not been given the required attention mostly due to lack of access by students and teachers.

(v) Lack of commitment by stakeholders: When those expected to play significant roles in enhancing the teaching of peace education to youths are not committed to the aim of the exercise, the achievement of the aim becomes a mirage. For instance, when the government does not play its roles of implementation and support, the process is frustrated. Kester (2008) identified how the vested interests of government can affect the aims of peace education. More so, youths' negative attitude towards peace education can arise from inherent challenges confronting them; Aluigba (2010) noted that the Nigerian youth is confronted with many social 'encumbrances' which compel him to develop apathy to positive initiatives.

Strategies for enhancing the teaching of peace education

Enhancing the teaching of peace education requires the following by schools, the family, religious, traditional and youth leaders, civil society, as well as governments:

(i) Using topics that raise issues related to peace and cultural understanding in our classrooms. This helps teachers to accord students the basic information to help them develop positive attitudes and values related to peaceful living. For instance, ethnic and religious tolerance lessons will help young people appreciate others; and also remove emphasis on discriminations. There should be emphasis on visual arts especially for younger people in and out of schools.

(ii) The teaching of different languages can play a special role. Language has enormous real and symbolic significance, especially for minority groups. Linguistic differences, and issues around what language should be used in schools in multi-lingual societies, are often sources of conflict (UNESCO, 2009). Through learning another language, young people have the opportunity to build understanding of those who may not be from their own linguistic group.

(iii) Engaging in activities that encourage cooperation; Johnson, Johnson & Smith (2000) noted that consensus building and reflective listening gives students skills they need to meet and resolve conflicts. Also, peace education cannot be effective in an atmosphere of violence – schools must be made to serve as peace-centers; teachers must learn to operate on peace.

(iv) New technologies provide children and youth around the world with the opportunity to discuss issues of common concern. Schools could partner with non-governmental organizations (NGO) and other institutions that carry out advocacy projects to enlighten students on using the internet to promote knowledge of peace. According to Osemene (2012), with the help of new digital media, Nigerians may improve on the following peace education skills, knowledge, and attitudes, including: skills, such as critical thinking, problem solving, assertiveness, self-control, sensitivity, cooperation, human rights, justice and power, gender issues, and social justice; and honesty, obedience, open-mindedness, gender equity, tolerance, and adaptation to change.

(v) Teachers must be provided with the knowledge, skills, approaches and strategies for teaching peace education. Contemporary children's literature can also be used to raise discussion about issues of peace and conflict, even with very young children.

(vi) Workshops for parents, community leaders, media, and other relevant stakeholders for out-of-schools peace education. The NGOs can facilitate these programmes to encourage relevant leaders to promote ideals of peace.

(vii) Out-of-schools peace education can take the forms of the use of banners, car stickers and posters in vital and strategic places like bars, health and trading centers as well as use of bill board publicity. Peace campaigns, international peace day celebrations, contests and exhibitions as well as increase peace components in the traditional cultural programmes.

(viii) Governments commitment to peace education can only enhance the teaching of the ideals of peace – support for teachers' training, sports and recreational activities in and out of school; recognition and support for peace groups, clubs and associations. Also, the need to create the enabling atmosphere for youths to remain committed to learning peace education.

Conclusion

No doubt, it has been proven by this evaluation and analysis that sustainable development in the Niger Delta region can only be achieved by identifying this lacuna between the youth national cohesion. The youths must be made conscious of the need for peace which transcends into their overall wellbeing and that of the society, and this can be achieved through encompassing peace education. The paper has also established the need for all stakeholders' commitment to the teaching of peace education as this is the only way the potentials of the youths can be utilized.

Recommendations

The following recommendations are proposed by this analysis:

- Building bridges of support among key participants. Peace education relies on families, communities, and social networks to affect positive and lasting change. As a peace educator, you need not work alone;
- The relevant agencies must ensure the institutionalization of peace education – this should be fashioned in a way it starts early from the home;
- Youths and youth leaders should be reached through various youth organizations, religious groups, social clubs, market and other group associations – this can be done in conjunction with community and religious leaders, and some relevant government agencies and the civil society groups;
- Youth-oriented programs should be embarked upon in order to accelerate their potentials;
- Concerned citizens, educators and activists of all ages around the world are promoting and building peace through education, thus there is need for cooperation;
- It is important that the enlightenment of people on the relevance of peace education is carried out. It is pertinent for stakeholders to adopt a holistic strategy to ensure that new digital media becomes effective in shaping the mindsets of youths and adults on issues of peace, especially conflict management, conflict transformation, peacemaking, and negotiation skills. The focus should be on primary and secondary schools, as well as out-of-schools youths.

References

Adeoye, M.N., Ayinla, S.A. & Muhammed, A.Y. (2006) "Ethnic Discrimination and Religious Intolerance: An Overview of Inter-Group Relations in Nigeria" in Akinwunmi, O., Okpeh, O.O, & Gwamna, J.D. (eds.) *Inter-Group Relations in Nigeria during the 19th and 20th Centuries*; Makurdi: Aboki Publishers.

Akinyele, R.T. (2001), "Ethnic Militancy and National stability in Nigeria: A Case Study of the Oodua People's Congress", *African Affairs*, Vol.100: 623-640.

Aluigba, Moses T. (2010). The Culture of violence among Nigerian Youth and the fate of stable democracy in the Fourth Republic. In Wakili, H. et al (Eds). *The Nigerian Youth: Political Participation and National Development.* Kano: Hallmark Publishers.

Chukuezi, C. O. (2009). Poverty and youth restiveness in Nigeria: Implications for national development. *Ozean Journal of Social Sciences, 2 (2)*, 97-103.

Clark, I. (2001). *The post-Cold War order: The spoils of peace*. Oxford: Oxford University Press.

Dasgupta, S. (1968). "Peacelesness and mal-development: A new theme for peace research in developing nations," *Proceedings of the International Peace Research Association Second Conference,* Assen, The Netherlands: Koninklijke Van Gorcum & Comp, vol.2, 19-42

Faleti, Stephen A. (2004). Theories of social conflict. In Best, S. G. (Ed). *Introduction to peace and conflict studies in West Africa.* Ibadan: Spectrum Books.

Friedenberg, E. Z. (1964). *The Vanishing Adolescent.* Boston: Beacon Hill Press.

Galtung, Johan (1981), "Social Cosmology and the Concept of Peace," *Journal of Peace Research*, 18(2), 183-199.

Johnson, D. W., Johnson, R., & Smith, K. (2000). Constructive controversy: The educative power of intellectual conflict. *Change, 32*(1), 28–37.

Johnson, D. W. & Johnson, R. (2003c). Frontiers in research: Peace education (Special section). *Journal of Research in Education, 13*(1), 39–91.

Johnson, D. W. & Johnson, R. (2005c). Peace education. *Theory into Practice, 44*(4).

Johnson, D. W. & Johnson, R. T. (2006). Peace education for consensual peace: The essential role of conflict resolution. *Journal of Peace Education, 3*(2), 147–174.

Kester, K. (2008) "Developing Peace Education Programs Beyond Ethnocentrism and Violence in Southern Africa" *Journal of Peace Education*, Volume 1, November 1, pp1 – 28.

Kriesberg, L. (2002), "Convergence between International Security Studies and Peace Studies," Michael Brecher and Frank Harvey (eds.), *Realism and Institutionalism in International Studies*, Ann Arbor: University of Michigan Press, 584-597

Livingstone, S. et al. (2011). "Risks and safety on the Internet: The perspective of European children". *Full Findings and Policy Implications from the EU Kids Online Survey of 9-16-year olds and Their Parents in 25 Countries.* London.

Matsuura, K. (2008). Foreword. In Page, J.S. *Peace education: Exploring ethical and philosophical foundations.* Charlotte: Information Age Publishers.

Ogege, S. O. (2011). Amnesty initiative and the dilemma of sustainable development in the Niger Delta region of Nigeria. *Journal of Sustainable Development, 4, (4)*, 222-237.

Okolie-Osemene, J. (2012). Towards utilizing new digital media technologies for the promotion of peace education in Nigeria. *African Journal of Teacher Education, 2 (1)*, 186-197.

Page, J. S. (2008). *Peace Education: Exploring Ethical and Philosophical Foundations*. Charlotte: Information Age.

Paris, R. (2001). "Human security: Paradigm shift or hot air?" *International Security*, 26(2), 87-102.

Thomas, A. (2004). The study of development. London: Church House.

Tjosvold, D. & Sun, H. F. (2002). Understanding conflict avoidance: Relationship, motivations, actions, and consequences. *International Journal of Conflict Management, 13*(2),142-164.

UNESCO. (2009). *Education for sustainable development*. Available at http://portal. unesco.org/education/en/ev.php. Accessed, 17th August, 2013.

United Nations. (2007). *World youth report*. Available at http://www.un.org accessed January 20, 2012.

Wenden, A. (2004). *Educating for a culture of social and ecological peace*. Albany: State University of New York Press.

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Parental Influence on Career Choice of Secondary School Children in Ondo West Local Government Area of Ondo State

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Abstract

The major purpose of this study was to investigate the parents' influence on the career choice of their children in some selected schools in Ondo West Local Government Area (OWLGA) of Ondo State. The population comprised all the Senior Secondary School II students in Ondo West Local Government Area. Sample used comprised 256 S.S. II students randomly drawn from the population. Questionnaire was used for data collection. Data were analysed using mean and t-test. The findings revealed, among others, that the influence of parents on their children's career choice was minimal, parents did not aid their children to study another course from that which they had chosen, and parents only advised their children on subjects to offer. Based on the findings, it was recommended that parents need to educate their children and always meet the basic needs of the children, school counselors and teachers are encouraged to give equal attention to male and female children on knowledge acquisition about career choice.

Keywords: Parental, Influence, Career, Guidance, Vocational, School, Counselors

Introduction

Career plays a very fundamental and significant role in the life of the individual not only because they determine the pattern of income but also because they affect the individual's personality and concepts in life (Dick and Rallis, 1991). Career is the totality of work one does in his life time and is person-centred. It is of utmost importance to every individual as he or she prepares for the future (Palmer, 2005; Rothstein and Rouse, 2011).

Children have been observed in most cases not to have absolute freedom of their own especially in Nigeria. They operate under parental and family influences in almost all spheres of their lives even when they are already adolescents. Families, parents and guidance in particular, play significant role in the occupational aspiration and career goal development of their children. Without parental approval or support, students and young adults are often reluctant to pursue or even explore diverse career possibilities (Wong and Liu, 2010). Most parents often choose classes for their children immediately they get to Senior Secondary School. Children from high socio-economic homes are the most influenced by parents in their choice of subjects for study at the school certificate level. Children from low socio-economic status homes tend to be those whose choices have been least influenced by their parents. This is not unexpected; as such parents are not likely to be familiar with what goes on in the schools (Odebunmi, 2004).

Students all over the world are usually faced with the task of career decision taking. The choice of careers, subjects, and courses of study in schools and of subsequent paths to follow, are always difficult problems facing students. In Nigeria, many youths go into unsuitable careers due to ignorance, inexperience peer pressure, advice from friends, parents and teachers or as a result of the prestige attached to certain jobs without adequate vocational guidance and career counseling (Salami, 1999). The career choice process of young people can easily be compared to rocks in a rock polisher (Hairsto, 2002). They are exposed to different levels of career guidance. All kinds of people (friends, teachers, school counselors, family members, and parents) grind away at them as to career choice but parents are the big rocks in the tumbler (Adeyemo, 2004). Parents are major influences in the lives of their children. Family members particularly parents are the most influential determinants of career guidance need. Neither teacher nor counselors can replace the influence parents have on their sons and daughters' career plans (Adeyemo, 2004). Studies have found that college students and young adults cite parents as an important influence on their choice of career (Leung, Hou, Gati and Li, 2011).

In choosing career for a child, the decision should involve: the area of interest of the child; the capability and status of the child; the encouragement received by the learner from his/her environment; the intellectual ability of the learner i.e intelligence quotient. Each individual undertaking the process is influenced by many factors, including the context in which they live, their personal aptitudes, and educational attainment (Bandura, Barbaranelli, Capara and Pastorelli, 2001). Ferry (2006) asserts that adolescent occupational choice is influenced by many factors, including life context, personal aptitudes and education attainment. He contends further that whether college-bound or work-bound, meeting the challenge of this developmental milestone is critical in adolescents' lives. Researchers have attempted to understand the variables that influence students' occupational goals (e.g family, level of parental education, school, peers, personality and socio economic status). other family variables that have been shown to influence career aspirations include the parents' occupation. The father's occupational status is highly correlated with his son's occupation (Scott, Gowans, Wright, Brennei, Banner and Boone, 2011). Career choice is a very crucial and important decision that should not be imposed but the child should be supported by the parents and the teacher should also contribute to the development of the child. Parents serve as significant interpreters of children for information about the world and children's abilities (Hall, Kelly and Gutwein, 2000). Parents have the knowledge of the resources available to them and are able to create a positive environment for their children, providing books, educational toys and tools, tutors and much more (Ferry, 2006). Parents who communicate openly with children are able to talk about careers, choices and the child's future (Wong and Liu, 2010).

The importance of parental influence upon their children's career choice is consistently important, even across gender and racial lines. Although schools, peers and the student's community all have an impact on child's self identity and career choice (Skorikov and Vondracek, 2011). The parent's expectation and perceptions of vocational fit for their children have been found to be the key roles in shaping their career choice (Ferry, 2006). One consistent finding in research suggest that adolescents own aspirations are influenced by their parents' aspirations or expectation for them. When adolescents perceive their parents to have high educational expectations for them, adolescents are likely to have higher aspirations for themselves (Osborne, Archer, Dillon, Wallis and Wong, 2013). This influence has been so strong as to over-ride the influence of teachers and career counselors who likely know more about the career field in question but were not as well known and as trusted as the children's parents for this type of decision (Creamer and Laughlin, 2005). Parents tend to create the strongest impression on their children's vocational choice more than any other group including counselors, teachers, friends or even people working in the identified occupation of desire (Bardick, Bernes, Magnusson and Witko, 2002). Parents as the primary role models for their youngsters, influence their morals, ideas, outlook on life and what they want to be when they grow up (Borges, Navamo and Grover, 2012).

In Nigeria the attitude of individuals and families males and females even highly educated and others towards career choice show that people are in grant of the concept and importance of career as means to uplift the quality of life of an individual. Prestigious occupations like Teaching, Medicine, Nursing, Piloting, Accounting, News casting, Engineering, e.t.c demand special clothing for corporate dressing. Parents due to financial problem cannot meet the demand of the career and encourage the child to go for other courses. (Rothstein and Rouse, 2011).

Today many children that choose career by themselves are still inadequate. This may be due to the fact that not many children choose their discipline as a career by themselves. Choosing career by children in the contemporary world amidst the numerous numbers of careers should be given proper and optimum attention so as to avoid unnecessary and unpalatable circumstances that may result in the future (Jawitz, Case and Tshabalala, 2000). This decision making should involve the child, the parent and the teacher (Sukovicff, 2004). Children look up to their parents as well as their peers in equal measure but separated which group they would talk to by the nature of the issue. For issue as what clothes to wear, what social events to attend and who to date e.t.c the peers were the dominant advisors. However, when the child required information on topics such as career choice they looked to their parents. Parents state that their assistance with their children's career development is an important parental task (Young and Friesen, 2000). The ideals of the parent set the tone for the career choices of the adolescent (Lankard, 2011). Family processes and ideals greatly affect the child's choice of career because children view the family values as concrete. If a family does not value education, the child might choose a vocational career. If a family is hard-working and hands-on, the child might choose a shorter college career in exchange for a life in construction or other technical trade. If a family hold education as the highest standard, it is most likely the child will attend college and choose a career based on that experience.

Campbell and Unger (2004), in their article, quoted Vance Peavy (2001) who stated that there is no longer a predetermine path or a logical linear progression from school to the workplace to retirements. Rather there is an opportunity to design a work life which is satisfying to the individual and which can be redesigned as needs, interests, and life experiences changed. A wise career choice might be understood as a decision that has been taken upon a realistic filtering of all career options and personal competencies generally required for a particular job opening. It results in truly valuable expertise and personal satisfaction.

It has been observed that at least one child of parents always take the occupation of the father or the mother. Parental careers influence children. If Mom is a high-powered executive, the kids will have higher career goals. Dads also have an influence. Hard-working dads who consistently better themselves through job advancement or schooling will raise children with similar high career aspirations (Scott, Gowans, Wright, Brennei, Banner and Boone, 2011; Borges, Navamo and Grover, 2012). When occupation life was less highly specialized, parents assumed the responsibility of only informing their children about occupations but in some cases choosing for them (Ajayi, 2000).Parents convey their influences to children through interactions such as conversations and through their reactions (both verbal and nonverbal).This then affects what children think, say and perceive about various careers (Leung, Hou, Gati and Li, 2011). Even though parents have been typically thought of as having positive influences on their children's career decision-making, it is also possible that parents are negatively affecting their children's vocational development as well (Bryant, Zvonkovic and Reynolds, 2006).

Purpose of the study

The major purpose of the study was to investigate parents' influence on their children's career choice. Specifically, the study determined:

1. ways children –parent relationships influence the children's career choice in Ondo West local government area .
2. the forms of counseling on career choice the children are given in schools in Ondo West local government.
3. ways by which improvement could be made to enhance effective choice of career by the children.

Research Questions

The following research questions guided the study.

1. What are the ways children –parent relationships influence children's career choice?
2. What are the forms of counseling children are given in schools on career choice?
3. What are the various ways by which improvement could be made to enhance effective choice of career by the children?

Research Hypothesis

$H0_{1:}$ There is no significant difference between the mean responses of male and female children on how parents influence their choice of career.

Methodology

The study adopted the descriptive survey design.

***Area of the study*:-** The area of the study was Ondo West Local Government Area

(OWLGA) of Ondo State. Ondo West local government is one of the 18 local government areas of Ondo state. It has 12 wards. They are Lekere, Bagbe, Laje, Igbado, Odojomu, Okelisa, Surulere, Oka, Odosida, Yaba, Newtown, Igunsin. The linguistic homogeneity of the place is Yoruba language.

Population for the study: The population comprised the SSS II students in the public secondary schools in Ondo West Local Government Area of Ondo State. There are 5, 443 SS II students in all the 32 public senior secondary schools (Ministry of Education, Ondo State, 2013).

Sample for the study**:** A sample of 256 SSS II students was randomly selected from 16 public secondary schools. The 16 schools were randomly selected from the 32 public secondary schools in Ondo West local government area. Sixteen SSS II students were randomly selected from each of the 16 public secondary schools that were used for the study, to make a total of 256 SSS II students.

Instrument for data collection**:** A structured questionnaire based on a 5-point scale of strongly agree to strongly disagree was used for data collection. The instrument was subjected to validation by two experts from the Departments of Educational Foundations and Home Economics, Adeyemi College of Education, Ondo. The result obtained for the reliability coefficient of the sections was 0.76.

Data Collection and Data Analysis Techniques**:** Two hundred and sixty five (265) copies of questionnaire were distributed by the researcher and two trained assistants in order to get the aggregate number (256) required. The completed copies of questionnaire (256) were retrieved. Mean (×) was used to analyze the data collected. Any item with a mean score of 3.0 and above was regarded as agreed. Similarly, any item scoring a mean below 3.0 was regarded as disagreed. T-test was used to test the hypothesis at 0.05 level of significance.

Findings

Ways parent - children relationship influence children career choice.

- Children live with their parents (Table 1)
- Parents buy the entire textbooks of their children and advice them on the subjects to offer (Table 1)
- Parents do not go against their children’s choice of offered courses (Table 1)

Table 1: Mean Ratings of Responses and t-test analysis by Male and Female students on how parent children relationship influence their career choice

S/N	Ways by which parent-children relationship influence career choice	$\bar{x}_3$	SD	$\bar{x}_1$	$\bar{x}^2_1$	$\bar{x}_2$	$\bar{x}^2_2$	t-cal	R
1.	I live with my parents so they influence my studies	4.17	0.936	4.38	0.872	3.88	0.742	-14.096	NS
2.	My parents buy the textbooks I use for my studies	4.21	0.789	4.36	0.384	4.01	0.4777	-15.831	NS
3.	My parents advice me on subjects to offer	3.89	1.164	3.99	1.690	3.76	0.895	-15.126	NS
4.	My parents aid me in my subject assignment and studies	4.13	0.921	4.27	1.045	3.95	0.528	-15.014	NS
5.	My parents want me to study another course than my choice	2.71	1.403	2.66	2.354	2.78	1.464	-25.877	NS

$N_1 = 136$, $N_2 = 120$, $N_3 = 256$

Keys: N_3 = Total respondents, N_2 = Male students, N_1 = Female students, R= Remark
SD = Standard Deviation, $\bar{x}_1$ = Mean response of female students, $\bar{x}_2$ = Mean response of male students, $\bar{x}_3$ = Respondents' mean response, $\bar{x}^2_1$ = Variance of N_1, $\bar{x}^2_2$ = Variance of N_2 NS = Not Significant

Table 1 reveals that the respondents agree with items 1, 2, 3 and 4 and disagreed with item 5 because the mean is below the mean cut-off (3.0). The t-calculated values of items 1, 2, 3, 4, 5, were less than the t-tabulated at 5% level of significance. This means there is no significant difference in the mean values of male and female children on how parents influence their choice of careers. Therefore, the null hypothesis was accepted at 0.05 level of significance.

Forms of counseling on the career choice children are given in school.

- School counselors do not impose subjects on students and students are not influenced by friends.
- School organizes career choice talk annually.
- Children choose their careers because they have personal interest in it, they score high marks in subjects relating to it and because they want to take after their parents choice.
- Children choose their careers because it is popular and many people admire it.

Table 2: Mean Rating of Responses by Male and Female Students on Forms of Counseling on the Career Choice Children are getting in school

S/N	Forms of counseling	$\bar{x}_1$	Decision	$\bar{x}_2$	Decision	$\bar{x}_3$	Decision
1.	My school counselor did not counsel me on career choice.	2.73	Disagreed	3.04	Agreed	2.86	Disagreed
2.	My school organizes career choice talks annually.	3.57	Agreed	3.75	Agreed	3.65	Agreed
3.	My teacher motivates me to learn.	4.13	Agreed	3.94	Agreed	4.05	Agreed
4.	I do not go for career choice Talk.	3.16	Agreed	3.18	Agreed	3.17	Agreed
5.	My school counselor chose my subjects for me base on my performance.	2.53	Disagreed	2.86	Disagreed	2.67	Disagreed
6.	I chose my career because of my friend's influence.	2.20	Disagreed	2.49	Disagreed	2.33	Disagree
7.	I chose my career because it is popular and many people admire it.	3.17	Agreed	3.39	Agreed	3.27	Agreed
8	I chose my career because I have personal interest in it.	4.38	Agreed	4.00	Agreed	4.22	Agreed
9.	I chose my career because I want to take after my parents' choice.	3.90	Agree	3.29	Agreed	3.06	Agreed
10.	I chose my career based on high marks I scored in those subjects relating to it.	3.61	Agreed	3.78	Agreed	3.68	Agreed

$N_1 = 136$, $N_2 = 120$, $N_3 = 256$

Keys: N_3 = Total respondents, N_2 = Male students, N_1 = Female students

$\bar{x}_1$ = Mean response of female students, $\bar{x}_2$ = Mean response of male students, $\bar{x}_3$ = Respondents' mean response

Table 2 reveals that students agreed on 3 items (2, 3 and 4) on forms of career counseling children get from schools while they disagreed on 2 items (1 and 5). This implied that school counselors do advice children on choice of careers but did not impose subjects to be offered on the students, teachers motivates students to learn yet students do not go for career talks organized in schools. Table 2 also revealed that students agreed on items 7, 8, 9, and 10 concerning whether their career choice was based on personal interest, conviction and well planned guidance instruction, but disagreed on item 6, this implied that children's choices of careers were major because of their popularity and people's admiration for them but not because they are influenced by friends. More so children's choice of careers were due to personal interest and because they want to take after their parents.

Table 3: Ways by which improvement could be made to enhance effective choice of career by the children

S/N	Ways of enhancing effective choice of career by children	$\bar{x}_3$	$\bar{x}_1$	$\bar{x}_2$	Remarks
1.	Going for regular counseling on career choice will help students.	4.27	4.41	4.09	Agreed
2.	Having interest in subjects relating to students' career choice will help them improve on the subjects.	4.29	4.48	4.05	Agreed
3.	Adequate use of instructional materials by teachers will improve students' interest on difficult subjects.	4.05	4.17	3.89	Agreed
4.	Parental motivation and encouragement from parents help students a lot.	4.17	4.29	4.00	Agreed
5.	Students must be focused and determined to succeed.	4.16	4.20	4.15	Agreed

$N_1 = 136$, $N_2 = 120$, $N_3 = 256$

Keys: N_3 = Total respondents, N_2 = Male students, N_1 = Female students

$\bar{x}_3$ = Mean response of female students, $\bar{x}_2$ = Mean response of male students, $\bar{x}_1$ = Respondents' mean response

Table 3 reveals that the respondents agreed with all the ways to enhance effective choice of career, with their means above the cut-off point of 3.0 and above.

Discussion of findings

Table 1 showed that the male and female students agreed with items 1-4 as ways by which children – parent relationship influence children's career choice, while item 5 was generally disagreed upon. Parents influence female children more than male children because they live with their parents more than the male children; get entire textbooks they needed in school from their parents and receive advice from their parents on courses to offer. Adeyemo (2004), Leung, Hou, Gati and Li (2011) corroborated this finding. They mentioned that parents are the most influential determinants of career guidance need and that neither teacher nor counselors can replace the influence parents have on their sons and daughters career plans. The male and female children were not expected by their parents to study another course from that which they had chosen. Hall, Kelly and Gutwein (2000); Wong and Liu (2010) observed that parents serve as significant interpreters of children for information about the world and children's abilities. Also Ferry (2006) stated that parents have knowledge of the resources available to them and are able to create a positive environment for their children, providing books, educational toys and tools, tutors and much more. Thus, long stay of female children with parents has significant effects on how much responsibility the parents carry on them. In order to identify the forms of counseling children are given in school on career choice, Table 2 showed that school counselors do advice children on choice of careers affirmed by Creamer and Laughlin (2005); Skoncov and Vondracek (2011) who stated that teachers and career counselor know more about career field and have impact on child's self identity and career choice respectively. Female children have closer relationship with their school counselor and far more motivated by them than male children and thus, got more influenced by the school than the male children. The reason could be that male children get their companies from their peers and friends and far believed in themselves. Female children pay better attention to the school activities than the male children. Generally, the children's choice of careers were due to personal interest and aspirations for themselves as stated by Osborn, Archer, Dillon, Wallis and Wong (2013) but the female children have more interest in their career because they do choose their career for the purpose of future sustenance as was stated by Campbell and Unger (2004).

The findings in Table 3 revealed that the male and female children agreed that to significantly improve effectiveness of choice of careers made by children, the following items have to be considered important. These are: going for regular counseling, having interest in subject relating to the choice of career, adequate use of instructional materials by teachers which would ease the understanding of difficult subjects, motivation and encouragement from the parents, having focus and determination. The above mentioned are in line with Bandura, Barbaranelli, Capara and Pastorelli (2001); Scott, Gowans, Wright, Brennei, Banner and Boone (2011); Borges, Navamo and Grover (2012), who mentioned that career choice by children should involve the encouragement received by them from their environment, their intellectual ability i.e intelligence quotient, interaction with parents and area of interest of the children respectively. This implies that the above mentioned are regular even though children do not attend career choice talk organized by their school. The children equally see the need for it as it has a great chance of helping them to have clearer understanding about their future in their chosen discipline.

Conclusion

The study has investigated the parents influence on the career choice of their children in some selected secondary schools in Ondo West local government area, in Ondo State. The study revealed that parents do not have any significant influence on the choice of career their children made. The schools counselors are underperforming in rendering career choice advice by only counseling on choice of career but neglecting giving orientation on subjects to offer. Children are reluctant to be enlightened on career choice in the school and the choice of career made by the children is based on self interest, subject performance, degree of societal admiration and influence of parental choice of career.

Recommendations

Based on the findings, the following recommendations were made:-

- Equal attention should be given to male and female students by school counselors to give them equal chance for knowledge acquisition about choice of career.
- School counselors should lay more emphasis on the intricacies of every subject for children to be able to choose that which they love and able to live for.
- Understandable instructional materials with adequate illustration should be

employed by teachers to instruct children in school.

- Parents and guardians are encouraged to motivate their children in their choice of career and not to choose for them.

References

Adeyemo, F.O (2004). *Parenting Adolescents in relation to behavioural modification: Nursery perspective contemporary issues and researches on adolescents* Ibadan: Omoade Printing Press.

Ajayi, S.A (2000). Parenting and Career choice of Adolescents. *The Modern Teacher Journal* (1) 74-78. Ibadan; Ministry of Education Standards Press.

Bandura, A., Barbaranelli, C., Caprara, G.V & Pastorelli, C. (2001). Self –efficacy Beliefs as Shapers of children's Aspiration and Career Trajectories. *Child Development* 72: 187-206.

Bardick, A.D, Bernes, K.B., Magnusson, K.C & Witco, K.D (2002).Junior High Career Planning: What Students Want. *Canadian Journal of Counseling, 38 (2)*. University of Lethbridge. 104-117

Borges, J., Navamo, A.M & Grover, A.C (2012). Women Physicians: Choosing a career in Academic Medicine *Acad Med 87 (1) 105-114.*

Bryant, B.K., Zvonkovic., A.M. & Reynolds, P. (2006). Parenting in relation to child and adolescent vocational development. *Journal of Vocational Behaviour, 69, 149-175.* books.google.com/books?isbn=0470114922 1.

Campbell, C. & Unger, M. (2004). Constructing a life that works: Part 1, Blending Postmodern family therapy and career counseling. *The Career Development Quarterly,* 5 (1). Books.google.com/books?isbn=9077874135

Creamer, E.G. & Laughlin, A. (2005). Self – Authorship and Women's Career Decision making. *Journal of College Student Development,* 46 (1), 13-27.

Dick, T.P & Rallis, S.F (1991). Factors and Influences on High School Students Career Choices. *Journal for Research in Mathematics Education. 22. 281-292.*

Ferry, N.M (2006). Factors influencing career choice of adolescents and young adults in rural Pennsylvania. *Journal of Extension,* 44 (3) 3R IB7: 1-6 Available: …. Unllib.un 1.edu.1pp/PNLA%20Quarterly.Salam-owolabi74-3pdf.

Hairsto, J.E (2002). How Parents Influence African American Students Decision to Prepare for Vocational Teaching Career. *Journal of Career and Technical Education,* 16 (2) 1-15. unn.academia.edu/

Hall, A.S Kelly, K.R & Gutwein, A.K (2000). Parenting and Career Development. *ERIC Digest* no. 214. online. Org/eric/docgen.asp?tbl=digets &ID=100

Jawitz, J. Case, J., & Tshabalala, M. (2000). Why NOT Engineering? The Process of Career Choice amongst South African Female Students. *International Journal of Engineering Education.* 16.470-475.

Lankard, B. (2011). Family Role in Career Development. (http://www.ericdigests. org/ 1996-3/family.htm)

Leung, S.A, Hou, Z., Gati, I. & Li, X. (2011). Effects of parental expectations and cultural –values orientation on career decision-making difficulties of Chinese University Students. *Journal of Vocational Behaviour* 78 (1) 11-20.

Odebunmi, A. (2004). "Locutions in Medical Discourse in South Western Nigeria". *Pragmatics* 16/1:25-41. www.inslit.uni-bayreuth.de/issues/48/inslist48.pdf

Osborne, J., Archer, L., Dillon, J., Willis, B. & Wong, B. (2013). Young Children's

Aspirations in Science: The unequivocal, the uncertain and the unthinkable. *International Journal of Science Education* 35 (6) 1037-1063

Palmer, S.R .(2005). Engineering Education for Primary School Students. *Psychological Reports.* 59.598-612.

Rothstein, J., Rouse, C.E (2011). Constrained after College: Student Loans and early – career occupational choices. *Journal of Public Economics* 95 (1-2) 149-163.

Salami, S.O. (1999). Relationship between Work Values and Vocational Interests among High School Students in Ibadan. *Nigeria African Journal of Education Research.* 5 (2) : 65-74.

Scott, I., Gowans, M., Wright, B., Brennei, F., Banner, S. & Boone. J. (2011). Determinants of choosing a career in family medicine. *CMAJ* 183 (1).

Skorikov, V.B & Vondracek, F.W. (2011). Occupational Identity. *Handbook of Identity Theory and Research* New York: Springer. 693-714.

Sukovieff, H.M. (2004). An Investigation of Influences on Career Decisions of High School Graduates: A follow up study. *SSTA Research Centre Reports.* http"//www.ssta.sk.ca/students/90-04.htm

Wong, S.C. & Liu, G.J (2010). Will Parental influences affect career choice? Evidence from hospitality and tourism management students in China. *International Journal of Contemporary Hospitality Management* 22 (1) 82-102.

Young, E & Friesen, C. (2000) Children's Career Development: A research review from a learning within a meta-framework of learning as structured by the two Questions posed earlier. *www.realtutoring.com/career/childcareerdeve.pdf*

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Sensory Evaluation and Proximate Composition of Snacks Produced from Composite Flour of *Dioscorea alata* and *Telfairia occidentalis* Seeds

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Abstract

The purpose of this research was to develop snacks (cuts of chin chin and strips of chin chin) from composite flour of *Dioscorea alata* tubers and defatted *Telfairia occidentalis* seeds and to test the snacks for acceptability. The study adopted an experimental design. *D. alata* tubers and *T. occidentalis* seeds were processed into flour using different methods. Cuts of chin chin and strips of chin chin were produced from composite flour of *D. alata* and defatted *T. occidentalis* seeds. Proximate composition of these samples was determined. The samples were also subjected to sensory evaluation on: (colour, texture, taste, flavour and general acceptability). A nine-point hedonic scale was used. Twenty panelists were used for the sensory evaluation. Data was analysed using means and analysis of variance (ANOVA). Incorporating defatted *T. occidentalis* seeds at 10%, 20% & 30% resulted in an increase in protein content of the snacks. For cuts of chin chin, the protein content ranged from (5.98%) to (6.55%) and for strips of chin chin (5.10%) to (6.82%). Result of sensory evaluation showed that the control (100% wheat flour) was most preferred followed by samples with 90% *D. alata* flour and 10% *T. occidentalis* seeds flour for both products. It was concluded that flours from *D. alata* tubers and *T. occidentalis* seeds at a ratio of 90:10 could be used for chin chin production.

Keywords: Snacks, Composite flour, *Dioscorea alata* tubers, *Telfairia occidentalis* seeds, Wheat flour

Introduction

Most tropical countries are faced with protein – energy malnutrition as a result of increasing population and enhanced dependence on cereal and tuber based diet. It is estimated that, about 800 million malnourished people exist in some of the least developed countries, mostly in sub Saharan Africa (Food and Agricultural Organization, 2006). In countries such as

Nigeria animal products representing high concentration and quality of protein are either too expensive or simply unaffordable thus, increasing the dependence on cereal grains, roots and tuber crops (Barber, Beleya, Eke and Owuno, 2010). Tuber crops are eaten in several ways and in most cases; they are milled into flour and utilized in preparing various items. *Dioscorea alata* is a tuber crop widely cultivated in Nigeria, it is used in the production of various food items such as pounded yam, snacks etc. (2010, Adams). Snacks are small meals eaten between the main meals in order to maintain health, while satisfying appetite. Snacks are often smaller than the regular meals and are designed to be portable, quick and satisfying then prepared meals. Many snacks are low in nutritional value. However, in recent times, snacks are being fortified as to provide consumers with products that provide the much needed nutrients.

Snacks are mostly produced from wheat flour. However, Opkala and Okoli (2011) noted that, in many regions of the world, wheat flour is unavailable or uneconomical. Thus in such countries like Nigeria, they have to rely on importation of wheat flour to sustain the production of snacks or exclude wheat product from the diet. Studies revealed that, the demand for snacks and pastry product is on the increase and the cost of the products has become very expensive (Sanful and Darko, 2010). Thus, to sustain the consumption of snacks, and reduce the importation of wheat flour, there is therefore a need to source for alternative source of flour as substitute for wheat flour or partially replace wheat flour in the production of snacks. The replacement of wheat flour requires the development of an adequate substitute in terms of functionality, cost and availability. Attempts have been made to produce flour from other cereals apart from wheat as well as composite flour from different food categories.

Flour produced from either cereals, legumes and tubers only will have a nutritional value inferior to those produced from a combination of cereals legumes or tubers (Barber et al, 2010). In selecting the components to be used in composite flour blends, the material should be readily available culturally acceptable and provide an increased nutritional potential (Akobundu, Ubbaonu and Ndupud, 1998). According to FAO (1995), composite flours produced from legumes have the advantage of improving overall nutrition. Therefore, composite flour produced from legumes and tubers will have high protein content and will also have high calorific value (Chinma, Ingbian and Akpapaunam, 2007). The production of composite flour from different food crops will result in flours that can be used as a replacement for wheat in the production of snacks. Awan, Rehman, Salim-ur, Rehman, Ismail and Hashmi (1995) noted that, composite flours are also advantageous in the sense that, the inherent deficiency of essential amino acids such as lysine in wheat flour is supplemented from other food crops such as legume. Barber *et al* (2010) stated that, to improve the nutritional value of cereal-based diets, legumes should be used to fortify them. The nutrient content of legumes makes them natural complements to cereal-based diets. Legumes have also been recognized as the second most valuable plant source for human and animal nutrition (Sanni, Adebowale and Yusuf, 2006). Legumes include soybean (*Glycine max*), cowpea (*Vigna unguiculatta*), African Yambean (*Sphenostylis stenocarpa*), fluted pumpkin seed (*Telfairia occidentalis*) etc (Sanni *et al*, 2006). According to the authors, *Telfairia occidentalis* seed is one of the most important food legumes in Africa and south East Asia. It is the most widely grown legume and one of the cheapest sources of plant protein (Chido, 2007).

Studies have shown improvement in protein content of several cereal and tuber foods supplemented with legume such as bambara groundnuts, sesame seeds and fluted pumpkin seeds (Giami and Barber, 2004; Alobo 2001). Barber *et al* (2010) reported that addition of 50 percent cowpea to malted sorghum resulted in an increase in protein, ash, and crude fibre content of sorghum cowpea blends. Snacks have been produced from composite flours of tubers and cereals. Olapade and Ogunade (2014) produced crunchy snacks from potato and maize composite flour with high acceptability. Abayomi, Oresanya, Opeifa and Rasheed (2013) evaluated the quality of cookies produced from sweet potato and fermented soybean flour. Their findings revealed that cookies with 20% soybean substitution had the highest mean for overall acceptability and was nutritionally superior to the other samples. The findings of Abayomi *et al* (2013) buttress the fact that composite flours of tubers and legumes have a high nutritional quality. Thus enrichment of *Dioscorea alata* flour with *Telfairia occidentalis* seeds flour will improve the nutrient quality of the flour and products from the composite flour will have a high nutritional quality. However, there is no published work on the nutrient composition and other characteristics of snack (Chin chin) produced from composite flour of *Dioscorea alata* and *Telfairia occidentalis* seeds flour.

Purpose of the study

The purpose of this research was to develop snacks (cuts of chin chin and strips of chin chin) from composite flour of *Dioscorea alata* tubers and defatted *Telfairia occidentalis* seeds and to test the snacks for acceptability. Specifically the study determined:

(1) The proximate composition: moisture, ash, fat, protein, carbohydrate and crude fibre of the products
(2) Determined the acceptability of the products based on colour, texture, taste, flavour and general acceptability

Materials and methods

Materials: Freshly harvested *T. occidentalis* fruits were obtained from a local farm in Ahoada East Local Government Area of Rivers State. *D. alata* tubers were purchased from Mile One Market in Port Harcourt. Sugar, shortening (Simas margarine), eggs, salt, nutnemg, baking powder, milk, vanilla essence, etc were bought from mile three market in Port Harcourt. All equipment, reagents and chemical used were of analytical grade.

Production of *Dioscorea alata* flour: *D.alata* tubers were washed in running tap water and peeled manually using a stainless steel knife. The tubers were then sliced and re-washed. The sliced *D. alata* were soaked in tap water containing sodium meta-bisulphite in order to prevent any browning reaction and were blanched in hot water at temperature of 100^{0}c for a minute. The blanched *D. alata* were oven dried at 60^{0}c for 18 hours in a hot-air fan oven (model QUB 305010G Gallenkamp UK), milled using a commercial mill and screened through a 500mm mesh size British standard sieve (model BS 410

Endecott Ltd London, UK) to obtain a uniform fine flour and stored in an air-tight plastic container at room temperature (37^0c) until used.

Production of *Telfairia occidentalis* seed flour: *T. occidentalis* fruits were cut open to obtain the seeds. The seeds were separated from the pulp; seeds with intact coats were washed in running tap water. The seeds were then boiled in tap water containing sodium-meta-bisulphite in a covered stainless steel pot for I hour to soften the seeds coats. The seeds were allowed to cool and then dehulled manually. It was rewashed, sliced and oven dried at 60^0c for 24hrs in a hot-air fan oven (model QUB 305010G Gallen Kamp, U.K). The dried seeds were ground using a commercial mill and sieved through a 500mm British standard sieve (model Bs 410, Endecott Ltd. London, U.K). The flour obtained was defatted using n-hexane as solvent. The defatted flour was oven dried at 50^0c for 30 minutes to remove residues of n-hexane. The flour was re-milled then stored in an air-tight plastic container at room temperature (37^0c) until used.

Sample formulation: Four samples were formulated for each of the products. 100 percent wheat flour was used as control for both products while the other samples were produced from *D. alata* and *T. occidentalis* seeds flour using a ratio of 90:10, 80:20 and 70:30.

Production of cuts of Chin Chin (One cm square or about one quarter of an inch)

Recipe

Ingredients	Quantity
Flour	200g
Sugar	80g
Margarine	80g
Baking powder	½ tsp
Nutmeg	1 tsp
Eggs	2
Milk	20ml
Water	20ml
Salt	0.3g

Procedure for preparation of cuts of chin chin

1. Sieve all dried ingredients
2. Rub in fat and flour
3. Add sugar
4. Add milk and water
5. Knead by hand on a flat clean table
6. Roll thinly to a uniform thickness
7. Cut into cubes using a cutter
8. Deep fry in hot vegetable oil in an aluminum utensil until brown
9. Drain within 10 minutes
10. Allow to cool.

Production of Strips of chin chin (one cm by ten cm)

Recipe

Ingredient	Quantity
Flour	200g
Sugar	80g
Margarine	80g
Baking powder	½ tsp
Nutmeg	½ tsp
Eggs	2
Milk	20ml
Salt	0.3g

Procedure for preparation of strips of chin chin

1. Sieve all dried ingredients
2. Rub in margarine
3. Add Sugar
4. Add milk and water
5. Knead by hand on a flat clean table
6. Use hand to roll out strip shape
7. Deep fry in hot vegetable oil in an aluminum utensil until brown
8. Drain within 5 minutes
9. Allow to cool and then pack.

Chemical analysis: The proximate composition of the sample was determined according to standard AOAC methods (AOAC, 1995). Crude protein was determined by Kjeldahi method. A factor of 6.25 was used to convert N_2 to protein. Fat was determined by soxhlet extraction method using petroleum spirit as solvent while, carbohydrate was determined by difference. Ash was determined by atomic absorption spectrophotometry (UV = Visible 754, China). Crude fibre was determined according to AOAC 1995.

Sensory evaluation: Coded samples of cuts of chin chin and strips of chin chin were placed on white saucers and presented to a twenty member panel consisting of staff and student of Federal College of Education (Technical) Omoku. The panelists were selected on the basis of age not less than 18 years and familiarity with the products. An evaluation sheet designed on a nine point hedonic scale was used for the evaluation of the samples with one (1) representing dislike extremely and nine (9) like extremely (Iwe, 2002). The attributes assessed were colour, texture, taste, flavour and general acceptability. The panelists were instructed to rate colour before tasting each product. Water was supplied to the panelists for rinsing their mouth in between tasting. Analysis of variance (ANOVA) was performed on the data collected to determine differences while Duncan Multiple Range Test (DMRT) was used to detect significant difference among the means at a level of 0.05.

Results

Table 1: Proximate Composition of Cuts of Chin Chin

	Moisture Content (%)	Ash (%)	Fat (%)	Protein (%)	Carbohydrate (%)	Crude Fibre
CHA	2.38^{c}	0.93^{b}	43.01^{a}	5.27^{a}	46.70^{a}	0.34^{b}
CHB	3.77^{c}	1.36^{a}	38.94^{b}	5.98^{b}	46.65^{a}	1.30^{a}
CHC	7.43^{a}	1.46^{a}	42.99^{a}	6.31^{a}	40.81^{c}	1.00^{a}
CHD	4.45^{b}	1.07^{b}	46.10^{a}	6.55^{a}	38.79^{b}	1.04^{a}

Means with the same superscript on a column are not significantly difference at ($P \leq 0.05$)
CHA - 100% wheat flour (control), CHB – 90% *D.alata* and 10% *T. occidentalis,*
CHC – 80% *D.alata* and 20% *T. occidentalis*, CHD - 70% *D.alata* and 30% *T. occidentalis*

The proximate composition of cuts of chin chin is presented in Table 1. Values for moisture content ranged from 2.38% in sample CHA to 7.43% in CHC. Ash content ranged from 0.93% in CHA to 1.46% in CHC with values for fat ranging from 42.99% in CHC to 46.10% in CHD. Protein ranged from 5.27% to 6.55%. Carbohydrate ranged from 38.79% in CHD to 46.70% in CHA with values for crude fibre ranging from 0.34% in sample CHA to 1.30% in CHB.

Table 2: Proximate Composition of Strips of chin chin

	Moisture Content (%)	Ash (%)	Fat (%)	Protein (%)	Carbohydrate (%)	Crude Fibre
STA	4.85^{a}	0.57^{c}	48.74^{a}	4.70^{c}	49.99^{b}	1.42^{b}
STB	3.33^{b}	2.37^{a}	36.53^{b}	5.10^{b}	50.38^{b}	1.29^{b}
STC	4.79^{a}	1.32^{b}	36.31^{b}	5.90^{a}	50.20^{b}	1.66^{a}
STD	3.74^{c}	1.46^{b}	36.28^{b}	6.50^{a}	51.60^{a}	0.96^{c}

Means with the same superscript on a column are not significantly difference at ($P \leq 0.05$)
STA - 100% wheat flour (control), STB – 90% *D. alata* and 10% *T. occidentalis*,
STC – 80% *D. alata* and 20% *T. occidentalis*, STD - 70% *D.alata* and 30% *T. occidentalis*

Table 2 shows result for proximate composition of strips of chin chin. Values for moisture content ranged from 3.33% in STB to 4.85% in STA. The ash content ranged from 0.57% in STA to 2.37% in STB Values for fat ranged from 36.28% in STD to 48.74% in STA. Protein ranged from 4.70% in STA to 6.50% in STD. STD was highest for carbohydrate. Result for crude fibre ranged from 0.96% in STD to 1.66% in STC.

Table 3: Sensory Evaluation of cuts of Chin Chin

	CHA	CHB	CHC	CHD	LSD (P<0.05)
Colour	6.60^{a}	5.60^{a}	5.15^{a}	3.25^{b}	1.40
Texture	6.65^{a}	4.25^{a}	4.80^{a}	3.4^{b}	1.38
Taste	6.00^{a}	4.35^{b}	4.25^{b}	3.75^{c}	0.98
Flavour	5.35^{a}	4.85^{a}	5.10^{a}	3.45^{b}	0.85
General Acceptability	6.15^{a}	4.65^{a}	4.55^{a}	3.25^{b}	1.18

Means with the same superscript on a row are not significantly different at ($P \leq 0.05$)
CHA - 100% wheat flour (control), CHB – 90% *D.alata* and 10% *T. occidentalis,*
CHC – 80% D.alata and 20% T. occidentalis, CHD - 70% D.alata and 30% T. occidentalis

Table 3 shows the mean scores for cuts of chin chin prepared from 100 percent wheat flour and composite flour of *D. alata* and *T. occidentalis* seeds flour. Sample CHA was rated highest followed by sample CHB while CHD was rated least for all the attributes evaluated.

Table 4: Sensory Evaluation of Strips of chin chin

	STA	STB	STC	STD	LSD (P<0.05)
Colour	7.65^{a}	5.20^{b}	4.75^{c}	2.30^{b}	2.19
Texture	6.75^{a}	5.40^{b}	3.40^{b}	2.05^{c}	2.09
Taste	7.65^{a}	5.65^{a}	3.35^{b}	2.15^{b}	2.45
Flavour	7.00^{a}	5.20^{a}	3.05^{a}	1.65^{b}	2.35
General Acceptability	7.15^{a}	5.65^{a}	3.70^{b}	1.85^{b}	2.31

Means with the same superscript on a row are not significantly different at ($P \leq 0.05$)
STA - 100% wheat flour (control), STB – 90% *D. alata* and 10% *T. occidentalis*,
STC – 80% *D. alata* and 20% *T. occidentalis*, STD - 70% *D.alata* and 30% *T. occidentalis*

Table 4 summarizes the mean sensory scores for strips of chin chin. The panelists rated the control (sample STA) highest followed by sample STB with STD being the least preferred for all the attributes evaluated.

Discussion

Results from the proximate composition of the chin chin (cuts and strips) shows that the protein content of the samples produced from the composite flour of *D.alata* and *T.occidentalis* seeds had higher protein content than the control (100% wheat flour). This could be due to the significant quantity of protein in *T.occidentalis* seeds flour as reported in various researches (Giami, Achinewhu and Ibaakee, 2005; Hamed, El Hassan, Hassan, Eltayeb and Babiker, 2008). A similar observation was reported by Abayomi, *et al* (2013) that cookies produced from blends of sweet potato flour and soy bean flour had higher protein content. Chinma *et al* (2007) reported that composite flour produced from legumes and tubers have high protein content and calorific value. An increase in ash content was also observed in products made from the composite flour. It then follows that the chin chin produced from the composite flours has a higher mineral content than those from wheat flour. This result agrees with the findings of Agu and Aluyah (2004) which reported a high mineral content in maize-soyabean-fluted pumpkin seeds blends with ash content of 2%. Idowu (2014) also reported high ash content in biscuits produced from composite flours of wheat and African yam bean. The carbohydrate content of the products from composite flour decreased with increase in addition of *T.occidentalis* seeds flour. *T.occidentalis* seed is known to contain low carbohydrate than wheat flour (Ibaakee, 2008).

Statistical results of the sensory attributes of colour (appearance) shows that, the control samples (CHA and STA) were rated highest, followed by sample CHB and STB with (10%) supplementation. Appearance of a food is usually the first sign of edibility (Iwe and Egwuekwu, 2010). The texture of the control samples (100% wheat flour) had higher values than other samples. Chinma, Igbabul and Omotayo (2012) also reported a higher texture score for 100% wheat flour cookies which they attributed to the presence of gluten in wheat flour. The texture of food depends a lot on the starch content (Iwe and Egwuekwu, 2010). Result of proximate composition also showed that the control had higher carbohydrate content than the other samples. The mean value for taste showed that samples CHD and STD with 30% *T. occidentalis* seeds flour were rated lowest. The quality attributes decreased with increase in the level of *T. occidentalis* seeds flour addition with respect to taste and flavour. Ibaakee (2008) also observed that cookies and chin chin containing more than 10% pumpkin seed flour have an after taste. For general acceptability, the control samples CHA and STA were most preferred, followed by samples CHB and STB with 10% level of addition of *T.occidentalis* seeds flour.

Conclusion

This study has shown that the addition of *T.occidentalis* seeds flour to *D.alata* flour increased the protein and also the ash content of the snacks and this indicates a higher nutritional value with respect to the protein and mineral content. The sensory attributes of chin chin (cuts and strips) with (10%) addition was most preferred.

This shows that (10%) *T. occidentalis* seeds flour can be added to flours for snacks production to improve its nutritional value and eating quality. This will no doubt contribute to reducing the problem of protein-energy malnutrition (PEM). The utilization of composite flour from *D.alata* tubers and *T.occidentalis* seeds for snacks production will add value to these crops and reduce the dependence on wheat flour for snacks production.

Recommendations

Based on the findings of this study, it is therefore recommended that:-

- Substituting up to 10% of *T.occidentalis* seed flour in product development using *D.alata* will enhance its nutritional composition.
- Products developed from a blend of *D.alata* and *T.occidentalis* seeds flour can be very useful snack product.
- *D.alata* and *T.occidentalis* seeds flour blend can find useful application for snacks products for which wheat flour has been used.
- Popularizing the use of these flour blends for such products for which wheat flour is used will go a long way to reduce the country's dependency on wheat flour, thereby saving scarce foreign exchange.

References

Abayomi, H.T; Oresanya,T. O; Opeifa, A. O, and Rasheed, T. R (2013).Quality evaluation of cookies produced from blends of sweet potato and fermented soybean flour, *International Journal of Agricultural, Biosystems and Engineering, 7*(7), 257-262.

Adams, R. (2010) *Origin and Planting of Water Yam (D.alata).* Retrieved on May 26th, 2011 from http://www.recipes-tips.com.

Agu, H. O. and Aluyah, E. (2004). Production and chemical analysis of weaning food from maize, soyabean and fluted pumpkin seed flour, *Nigerian Food Journal 22*, 171–177.

Alobo, A.P. (2001). Effect of Seasame seeds flour on millet biscuit characteristic. *Plant Food for Human Nutrition, 56,* 195-200.

Akobundu, E.N.T, Ubbaonu, C.N. and Ndupud, C.E (1998). Studies on the baking potentials of non-wheat composite flour. *Journal of food science Technology*, *25,* 211-214.

Awan, J.A. Rehman, A. Salim –ur- Rehman, E. Ismail, M and Hashmi A.S. (1995). Evaluation of biscuits prepared from composite flour containing mothbean flour. *Pak. J. Agric .Sci., 32*(1), 211-217.

Barber, L.I. Beleya, E, Eke, Ejiofor .J. and Owuno, F (2010). Effect of Cowpea on the Physicio-chemical and sensory characteristic of 'epiti' – A steamed maize/plantain pudding. *Nigerian Food Journal*, *28*(2), 448-453.

Chido, M. (2007). *The fluted pumpkin a West Africa delicacy*. Retrieved on 07/07/2013 from http://www.jst.or.org/ps/42544

Chinma, C.E; Ingbian, E.K and Akpapaunam, M. (2007). Processing and acceptability of fried cassava Balls (Akara-akpu) supplemented with melon and soya bean flour. *Journal of Food Proc. Preserve. 31*(2), 143-156.

Chinma, C.E; Igbabul, B.D. and Omotayo, O.O. (2012). Quality characteristics of cookies prepared from unripe plantain and defatted sesame flour blends. *American Journal of Food Technology, 7,* 398-408.

Food and Agricultural Organization. (2006). *Food Security development: since the world food conference and prospects*. World Food Summit Technical Background Document Rome.

Food and Agricultural Organization. (1995). *Sorghum and Millet in Human Nutrition* (FAO Food and Nutrition series No.27). Rome.

Gimai, S.Y. and Barber, L.I. (2004). Utilization of protein concentrates from germinated and ungerminated fluted pumpkin *Telfaria occidentalis* Hook seeds in cookie formulation. *J. Sci. food Agric, 84*, 1901-1907.

Giami, S. Y; Achinewhu, S. C. and Ibaakee, C. (2005). The quality and sensory attributes of cookies supplemented with fluted pumpkin (*Telfaria occidentalis* Hook) seed flour. *International Journal of Food Science and Technology, 40,* 613-620.

Hamed, S. Y; El Hassan, N. M; Hassan, A. B; Eltayeb, M. M. and Babiker, E. E. (2008). Nutritional evaluation and physiochemical properties of processed pumpkin (*Telfairia occidentalis Hook)* seed flour. *Pakistan Journal of Nutrition, 7* (2), 330-334.

Ibaakee, C. B. (2008). Bioavailability of mineral and protein digestibility in selected confectionary products made from wheat-fluted pumpkin flour blends (Unpublished M.Sc thesis). Department of Food Science and Technology, Rivers State University of Science and Technology, Port Harcourt, Rivers State.

Idowu, A. O. (2014). Development, nutrient composition and sensory properties of biscuits produced from composite flour of wheat and African yam bean. *British Journal of Applied Science and Technology, 4*(3), 1925-1933.

Iwe, M.O. (2002). *Hand book of sensory methods and Analysis*. Enugu: Re-joint Communications services Ltd.

Iwe, M.O and Egwuekwe, E.I. (2010). Production and evaluation of cookies from *Xantosoma sugittifolium* and *Colocasia esculenta* blends. *Nigerian Food Journal, 28*, 145–153.

Okpala, L.C. and Okoli, E.C. (2011). Formulation and Evaluation of Cookies containing Germinated Pigeon Pea, fermented sorghum and cocoyam flour blends using mixture response surface methodology. *Advanced Journal of Food Science and Technology*, *3*(5), 366-375.

Olapade, A. A. and Ogunade, O. A. (2014). Production and evaluation of flours and crunchy snacks from sweet potato (*Ipomea batatas*) and maize flours. *International Food Research Journal, 21*(1), 203-208.

Sanni, S. A, Adebowale, A. and Yusuf, S. A. (2006). Physical, Proximate and Cooking Properties of Selected Nigeria Cowpea Varieties. *Nigerian Food Journal, 24,* 34-37.

Sanful, R.E. and Darko S. (2010). Production of Cocoyam, Cassava and Wheat flour composite Rock Cake. *Pakistan Journal of Nutrition*, *9* (8), 810-814.

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Promoting Creativity and Entrepreneurship for Individuals and Families

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Abstract

This paper examines the concepts of creativity and entrepreneurship. It also reviews the relationship between the two concepts and the traits related to both of them. It further renews the need for creativity and entrepreneurship, strategies for promoting them and challenges that militate against these two phenomena. The paper then makes recommendations for promoting creativity and entrepreneur.

Introduction

Creativity involves many things such as, the ability to see things in a new light, to produce something never seen before, or to discern problems others fail to recognize, and find new and unusual solutions, (Papalia, Olds & Feldman, 2002). Creativity is the ability to think in novel ways and discover unique solutions to problems. Creativity is described as the ability to transcend traditional ideas, rules, and patterns and to create new meaningful ideas, methods, interpretation and forms. Saheed and Alofun (2011), clearly defined creativity as the knowledge, skills and imaginative activity that is applied in new ways to achieve value outcomes and products that are both original and of value. Some people think creativity is for a selected and gifted group of people, others think creativity is not important. These are all assumptions that are meant to discourage the mid from thinking positively. One can learn how to be creative or at least think creatively or better still think differently. According to Droke (2013), creativity allows individuals to see opportunities rather than obstacles and solutions to challenges rather than road blocks. Creativity is vital in entrepreneurship. Both concepts are closely related.

Habiba (2010) describe entrepreneurship as being self employed and not relying on other people or government for job security. Entrepreneurship is the willingness to take risks and develop, organize and manage a business venture in a competitive global market (Shane, 2003). According to Reynolds (2010), entrepreneurship is the capacity and willing to develop, organize and manage a business venture along with any of its risks in order to make profit. An entrepreneur therefore is sometimes collateral in the case of sourcing for loans to set up a business without knowing if the business will succeed or not.

Zoltan and Audresh (2003), had earlier examined the essential attributes of an entrepreneur, which are basically, the ability to take risks, possessing organizational skills to start a business and make it grow. Entrepreneurial competencies therefore, focus on human and social resources which can be used to measure the economic growth and well being of a community. When people are exposed to entrepreneurship, it is evident that they would be exposed to opportunities that would enable them to become creative and productive. Success in such venture should raise self-esteem and improve on the quality of an individual's life. This suggests is that education both at home and in the school setting should be holistic and incorporate components that will make education a lifelong learning profitable to individuals and families.

The paper focuses on the following:

- Traits for creativity and entrepreneurship.
- Need for creativity and entrepreneurship

Traits for creativity and entrepreneurship

Optimism**:** This is an asset that will help cushion the storm of tough times. Identifying a business and meeting all the requirements toward the success of the business can be quite challenging. Initial capital, operations, qualified skill manpower, finance and making profit are areas that need for a creative optimistic mindset and personality.

Vision**:** Vision enables the entrepreneur see where things can be improved and an insight into the future, so that other people can be engaged in the vision. A typical entrepreneur has a compelling vision and projection of the prospect of the business and is not afraid to venture into the unknown.

Initiative and Persistence**:** These are traits that are geared toward problem solving projects and the desire to work hard for a long time to realize stated goals. It takes determination to be progressive toward a business goal; it is a driving force that keeps the candle burning at night and an intelligent mindset that differentiates between a positive venture and a bad one.

Critical and Creative Thinking Skills**:** This enables the entrepreneur come up with fresh ideas and makes good decisions about opportunities and potential projects. Drucker (2007) explained that creativity enables one see situations from a variety of perspective and come up with original ideas.

Education and Knowledge**:** Knowledge is needed in several areas when starting or running a business. Business knowledge in the main functional areas of a business such as sales, marketing, finance and operations, and then entrepreneurial knowledge, which is the ability to know where to raise capital, amount of work needed to find a business line that will be marketable to face the global competition.

Hartigan and Billmore (2005) believe that entrepreneurial thinking should be instilled in younger children, from the home to primary school the tertiary institution. Children should be helped to develop positive value of self reliance, creativity, resourcefulness and initiative. Desirable education therefore is one that enhances human curiosity and creativity, encourages risk-taking and cultivates the entrepreneurial spirit in the context of globalization.

Managerial Skills: Communication skills, creativity skills and professional ethics are vital to any successful business. Creativity skills require seeking for alternative ways of sourcing for funding, news avenue for raw materials, new market strategies and alternative routes of making the product different and attractive to the customers. Uko – Aviomoh (2013) explain that professionalism connotes a high performance in any line of work and identified appearance, sense of responsibility or accountability, competence, integrity and communication as some of the expectations of professionals. Specifically, professionalism involves developing strategies that will improve proficiency. Professionals need to acquire knowledge on a regular basis, improve on technologies and develop innovations that can keep abreast of the 21st C market economy.

As an entrepreneur, you will work closely with people and so it is critical to build relationships with customers, suppliers, investors and all people who are engaged in the value chain of the business. Communication skills are therefore necessary for this relationship to be developed.

Emotional Intelligent Skills: Carmicheal (2003) reveal that emotional intelligence helps an individual to be able to relate with others. Emotional intelligence involves the listening skills, especially, empathic listening and being ethical; dealing with people based on respect, integrity, fairness and truthfulness.

Need for Creativity and Entrepreneurship

In the present Nigeria situation, the need for creativity and entrepreneurship cannot be overemphasized. The high level of unemployment situation amongst graduates from schools coupled with the level of underdevelopment, poverty and high rate of school dropout from the primary and secondary schools in Nigeria have given rise to the need for financing and managing entrepreneurship.

The unemployment rate especially among the youths is the number of people actually looking for a job against the percentage of the labour force clearly shows that unless measures and strategies are put in place at individual and family levels, the situation will continue to be disturbing. Government continually calls for interventions from other sectors as it alone cannot cushion the effect of unemployment.

The unemployed is the composition of unemployed people, employed people who lose their jobs and people who shop looking for employment (Guigni, 2011). The National Bureau of Statistics (2013) reports that the unemployment rate is as high as 23.90% in 2011 and is expected to be higher if no significant measure is taken. Compare this to other advanced countries for which Nigeria will want to emulate like China, USA, South Africa, India or even Ghana. For example, the unemployment rate holds steady at 7.8% even though it was last updated ijn 2005. In South African, a country that seems to be attractive to many Nigerians show an increase rate of 25.2% in the first quarter of the year, 2013 from 24.9% of last year's figure, (Ntsakisi, 2013). So, there is really no place to-run-to unless Nigeria, and we need to salvage the situation by being creative and find new ways of starting a business for export purposes.

According to the International Labour Organization (2013) report, more than 197 million or 6% of the world's population are without a job. in Nigeria, a total of 61,779 (5%) unemployed Nigerians are registered with the government small scale Enterprises, (Ekpe, 2010). Adewole (2010) revealed that 15% of graduates in Nigeria are unemployed.

The effect of unemployment calls to mind the fundamental issue of creativity and entrepreneurship. The effects of unemployment create loss of human resources as youths who have graduated go above in search of employment, further creating waste of time and labour, (Guigni, 2011). Unemployment creates poverty as people are deprived of the means of income, (Igbo, 2006, Anyakoha, 2013). It breeds many social problems comprising of malnutrition, mental health problems, begging, instability, corruption, kidnapping, arm robbery and other harmful social problems, (Oloko, 1994). It is a fact that those youths who are unemployed is easily convinced by politicians to engage in thuggery, hooliganism, gangsterism, cultism, stealing and kidnapping.

Furthermore, in the state of unemployment, labourers are exploited to work much for low wages and to work in inappropriate conditions. According to Sullivan and Suffrin (2003), lack of financial resources and social responsibilities many encourage unemployed workers to take jobs that do not fit their skills or allow them to use their talents, thereby causing under-employment. Another dimension of underemployment is the issue of working children who are engaged in various forms of labour to the detriment of schooling, or graduates engaged in forms of work for which they have not been trained for.

Ekpe (2010) revealed that entrepreneurship is vital link to an overall economic growth of a nation, as it helps to create wealth and reduce unemployment. The fundamental importance of entrepreneurship is increasingly being acknowledged by international policy makers, for example, United Nations (2004) acknowledged the role of the private sector which is critical to unleashing the power of local entrepreneurs to reduce poverty in their communities and the Nation at large. The key message from reports like this shows the need for a culture of entrepreneurship and a new wave of entrepreneurs needed to reinvigorate economic activity, provide innovation and to challenge existing ways of thinking and orthodoxies.

Akanda and Ojokuku (2008) report on the need to diversify the educational system to include entrepreneurship education. This will encourage support for private and small scale establishment and enable practical skills at all levels of the educational system whether formal or non-formal system.

Recognizing the indispensability of small scale and private sector enterprises as the dynamic impetus for general economic development of these enterprises, Nigeria since 1970 has designed and introduced a variety of measures to promote small scale and medium enterprise development. These measures according to Carmicheal (2003) includes fiscal, monetary and export incentives. Tax holidays and tariff concessions, credit guidelines requiring some commercial and merchant banks to give some of their loan money to small-scale enterprises, and then a number of schemes were introduced to aid the development of small scale and medium enterprise. One would expect that with all of these programs and schemes of government, there shall be an improvement in graduate employment and a positive effect on performance, therefore, the need for individual and family approach in promoting creativity and entrepreneurship.

This to my mind should be an education that is transformative, a paradigm shift that gives rise to a change of ethos and purpose, instead of education being mostly as a preparation for economic life and earning a living, it becomes all inclusive for sustainable communities and sustainable economies. That is transferring knowledge and practical methodologies to the industry and crating a symbiotic relationship between the school and the town.

Since creativity and entrepreneurship are interconnected it means that a decline in creativity would result in a similar decline in entrepreneurship. Zhao (2012) discusses the inverse relationship of entrepreneurship and creativity to performance at standardized tests, and found out that more creative and entrepreneurial students seem to have lower result in standardized tests. Similarly, low level of entrepreneurial correlates to high performance on tests. This suggests that in order to promote creativity, instead of education being largely confined to instruction and transmission, it should become much more participatory, dynamic, active and geared toward solutions to problems.

Drucker (2007) explained that creative thinking enables an individual to see situations from a variety of perspective and come up with original problem solving tools. Teaching skills in a key area that does not define entrepreneurship is incomplete education in the present dispensation.

Creativity draws from many other human endowments like abilities, capability, and sensibilities. Teaching creativity helps young people in understanding what is involved in being creative and become more sensitive to the creative processes. At home where creativity is encouraged, children are allowed to explore the environment with adequate materials for play and exploration without inhibition. By this the ability for skilful learning can develop.

According to Kashim, Ogunduyile and Aselabu (2011), creativity itself is a mode of learning and it is distinctive because it involves a thoughtful playfulness which includes learning through experimental play including conjuring up, exploring and developing possibilities.

Strategies for Promoting Entrepreneurship and Creativity

Resource management and wealth creation / income generation are some of the challenges facing the present day families. Creativity and entrepreneurship are capable of generating enormous self employment and career opportunities for individuals and families. The following are some of the strategies that enhance creativity and entrepreneurship among individuals and families.

***Introduce Creativity and Entrepreneurship Training into the School Curriculum*:** This will enable students acquire knowledge to be self employed. The need for entrepreneurship education toward individual and community development have penetrated the fabrics of all sector of the socio-economic life of Nigeria, such that the educational as a compulsory component of entrepreneurship education in Nigerian university system as the rinsing unemployment rate among the youth.

According to an NUC Report (2004), 40% of Nigerian graduates are unemployed. Furthermore, the declining image of the Nigerian school system as it relates to employability and the quality of life also calls for the need for entrepreneurship education. Adewole (2010) also mentioned the promotion of the dignity of labour and the value ascribed to decent work as one of the reasons for entrepreneurship education in tertiary institutions in Nigeria. Thus, NUC has approved and Nigerian Universities have included in their curriculum Entrepreneurship education as a general subject.

In the NUC curriculum on Entrepreneurial studies, the following have been identified as ventures:

- Soap / detergent, tooth brushes and tooth paste making
- Photography, paper production, printing
- Brick block laying, nails and screw making
- Cloth weaving, dyeing, rope making, leather tanning, interior decoration, tailoring
- Food processing (vegetable oil extraction). Preservation and packaging, Bakery, water treatment / packaging, brewing
- Animal husbandry – poultry, piggery, goat keeping, fisheries and aquaculture, crop farming
- Restaurant and hospitality business, hair dressing saloon, boutique and fashion houses
- Ceramic production, carpentry, wood carving, metal craft
- Metal work fabrication domestic wiring, iron welding, building drawing, vehicle maintenance, black smith, radio /TV repairs, air conditioners / refrigerators

Some of these skills are already assigned to Home Economics and are skills that are familiar at home and within families. Saheed ad Alofun (2011) believe that vocational and technical education is key to creativity and enterprise. Ashmore and Guzman (1988) had earlier noted that graduates of vocational education are more likely to start a business much more early than other graduates. Vocational education programs provide work experience opportunities that get young people into the mode of earning, saving and investing money long before their peers.

***Provide Environment that Stimulates Creativity and Entrepreneurship*:** Merely acquiring practical entrepreneurial skills without the creation of an enabling environment can create obstacles on the success of the business and even cause the failure of businesses. Public opinion has revealed the bureaucratic role of access to capital, lack of basic amenities for a striving business such as electricity, good road network, market prices as some obstacles. Providing an enabling environment is a strategy that is two – sided, that is the school environment must be conducive and laboratory fit with the necessary equipment for learning, in order for students to acquire the basic skills. The business environment should promote and support small and medium scale enterprises.

***Creative Economy*:** Creative economy has produced important transformation in the economic sphere. Creative economy according to Prendergast, McGregor and Turkki (2012) is a way to stimulate generation of work and income from regional and cultural diversities in detriment to mass production, in such a way as to rein – enforce smaller producers and still favour the process of economic transformation of families and national development. For example, the textile industry is so diverse and involves so many branches such as spinning, weaving, knitting, sewing, dyeing, embroidery, printing etc. This can be a chain of small scale producers developing and managing skills at these specific areas, while generating income for smaller units of the society.

Seek diversity in business. That could include everything from the people you hang out with to the books you read and the websites you visit. Open your mind to new ideas and experiences that are outside your comfort zone.

***Foster Flexible and Playful Thinking*:** Flexible and playful thinking is the conscious attempt at challenging assumptions and preconceptions, an unusual activity that drives creativity, [Drucker, 2007]. It is driven by the find, introduce, construct or reconstruct something new. It seeks actively to expand the possibilities of any situation and has a bias for innovation. Change the way the business is marketed, expansion to other related business or a new line of business, expansion could also be for export purposes.

***Family Setting*:** This can serve as a strategy for creating interest in creativity and entrepreneurship. Some creative works have been traced to run in ethnic and family groups. Some of the family activities have remained obsolete because of lack of innovation and patronage. Consequently, the creative potential of individuals, family and community groups should be exploited in order to let producers generate new ideas and innovative products.

Challenges of Creativity and Entrepreneurship

Considering the interplay of creativity and entrepreneurship as empowering individuals and families, the following are some of the challenges:

***Lack of Capital*:** Finance has been a major factor hindering the development of entrepreneurship as revealed by (Ekpe, 2010) that most entrepreneurs source for fund through family and personal savings. The government has put in place some micro finance banks which to some extent offer credit facilities. These banks include: Nigerian Bank for Commerce and Industry (NBCI), Nigerian Industrial Development Bank (NIDB), Nation Economic Reconstruction Funds (NERFUN) and Nigerian Export – Import Bank (NEXIM). There is also some incentive that are technical in nature, such as the provision of manpower training, appropriate machinery, selection and installation and extension services. These services are provided by institutions such as the Industrial Development Centre (IDC), Centre for Industrial Research and Development (CIRD), Centre for Management Development (CMD), Project Development Agency (PRODA) and the Raw Material Research and Development Council (RMRDC).

It would seem reasonable to expect that intended entrepreneurs will patronize these initiatives and correspondingly one would expect a positive effect on productivity and job creation, but figures on the unemployment rate shows otherwise. Lack of capital and access to government initiatives on finance if not properly harnessed could be a challenge.

***Vocational and Technical Education*:** Vocational education is that form of education organized informally or formally in a school environment that imparts saleable skills to people to be self employed and be employers of labour. If vocational training is not properly handled, it can thwart the success of skill acquisition. Adewole (2010) acknowledge that vocational and technical education has not been given the prominence it deserves in the Nigerian educational system, otherwise job creation and creativity would not be a challenge. This is a strategy as well as a challenge depending on the way it is handled. Theoretical applications and practical frameworks that have been studied in school require a much greater depth and breathe. Studying entrepreneurship in school allows each student to develop a unique business idea and training is required before this can be carried out.

***Inadequate Educational Workshops and Laboratories*:** Lack of facilities and consumables hinders the implementation of entrepreneurial skills in schools. According to Momoh (2009), if Nigerian development is to be enhanced and sustained, then the system must produce skills acquisition and training curriculum and centres in the higher institution and even re-invigorate the lower level of the educational system at the primary and secondary schools especially in the public school system where the conditions are deplorable and were most youths acquire education. The current ASUU strike (Renegade of 2009 ASUU/FGN agreement) and demand for government to look into the deplorable condition of the university system is a testimony of the need for infrastructural development and provision of equipment and consumables for training.

***Craftsman's Invisibility Factor*:** This translates to products being sold to the middleman, and subsequently to famous brand names without recognition of the initiator or inventor fo the product, this serves as a challenge. When these enter into large scale production, the artisans are left out from receiving any royalty from the work. the role of the middle man is both positive and negative, most importantly the middle man can serve as the agent for dissemination of the product and services available in the business at a cost. For the small scale businessman, the middle man can fix the price to the detriment of the labour of the producer. This is where entrepreneurship can assist the business in making wise decision for the advantage of the enterprise.

***Creative Works from the Past*:** Past processes and techniques used in producing creative works are passed from one generation to another, thus preserving cultural and creative roots. However this can be a challenge as some of these crafts are obsolete in form, structure, and functionality. Many craft producers do not introduce innovation and this can create problems in commercializing these products. Creative potentials of human beings are bound to decline during a lifetime, however creative processes may be restored by the use of creative techniques for entrepreneurship.

***Monitoring or Surveillance*:** Supervision is a critical challenge to the success of a business, because of the dull, repetitive nature of certain kinds of industrial work, like assembly line production, regular supervision is needed to ensure that the workers sustain the pace of the labour. The same is applicable of other types of routine work. There are various ways of supervision - direct supervision of the work of subordinates, keeping files, records and case histories about people's lives and lastly self supervision, where the surveillance by others change one's behaviour and limits what one does. Onu (2006), report that the world of work is currently demanding that workers discover new ideas and develop new processes that will drive the industry and attract customers in a competitive market.

General Problems*:** Adewole (2010) itemized ***general problems such as time table constraint, finance, capital, inadequate infrastructure, need for internship, dignity of labour, staffing the program as some of the challenges facing the entrepreneurial program in the universities. Specifically, the time table is already overloaded in the general studies program for which Entrepreneurship is housed, some of the ventures are certainly expensive for graduates to take up as businesses without a reasonable capital, inadequate infrastructure is already a problem in the university, especially energy. Societal preference for white collar jobs and general unfavourable attitude to the dignity of labour discourages youth especially to develop interest in vocational jobs. Permit me to quote Fafunwa inn reference to an African legislator who was quoted as saying "vocational education is good and should be encouraged, but it is not for my son".

Conclusion

Creativity and Entrepreneurship are correlates to successful business. People who are successful in business make the difference between the product and services they deliver. What constitute a successful business is the ability of the enterprise to create innovation, invention, resources, vision, inspiration and progression continually that will and compete favorably in the global economy. Both creativity and entrepreneurship can be learnt and developed in families and in schools. With the present unemployment rate and the increasing number of graduates from universities, the burden on families can be reduced if there are appreciations of small and medium scale industries that are involved in the chain production as a result of diversification.

This discussion will be incomplete without mention of the role of Home Economics and its graduates in curbing the unemployment situation in Nigeria, the challenge is before us and charity must begin at home, there is now the need for us as professionals to examine the subject content delivery and revisit obsolete techniques, pedagogies and embrace best practices in content delivery.

Recommendations

The focus of the 21st C describes the process of youth empowerment, wealth creation and poverty reduction. Indeed, the Millennium Development Goals (MDG) Launched in 2003 aims to reduce world hunger and poverty and generate income from sustainable actions. Based on the discourse on ***"promoting Creativity and Entrepreneurship within individuals and Families: Challenges and Strategies"*** the following recommendations are made:

***Teaching Creativity and Entrepreneurs*:** Emphasis on the promotion of creativity and entrepreneurship should be on the teaching and learning of practical skills required for successful start – up and management of businesses. Since Nigeria's focus is leaning toward a private sector driven economy, now is the time to get it right by ensuring that schools prepare students to be entrepreneurs. Skill acquisition and business knowledge should not necessarily be learnt from the formal school system. There should be centres and cottage industry that should be able to foster such training. From the individual and family aspects, there is need for a change of orientation and attitude toward formal schooling, especially where creativity and entrepreneurship is to be encouraged.

Furthermore, education should be functional and should promote relevant, practical and comprehensive skills. Such as innovation, adaptability, respect for the dignity of labour and the practice of self learning.

***Appreciation of Creativity and Entrepreneurship*:** There is need to encourage cooperative ventures and give practical prominence from the lowest community levels. Many creative traditional industries have been phased out as a result of poor patronage and lack of appreciation. The government, industrialist and all stakeholders – schools and families should encourage schools and families should encourage and promote creative works of youths.

***Government Intervention*:** Soft loans by government through the appropriate directorate will enable interest groups start up a business. Monitoring and surveillance will address the fears associated with government loans. Presently, the government has initiated the Bank of Industry (BOI) in partnership with small cottage industry and with the necessary requirements, this Bank has been able to support and promote small scale businesses. Secondly, efforts should be geared to identify the needs and problems of the youth with the full participation of the youths. This will be the most obvious way of ensuring creativity and industry, entrepreneurship for self reliance, sustainability for individuals and families.

References

Adewole, A. (2010). Entrepreneurship Education and Curriculum Development in Nigerian Anyakoha, E. U (2013). Advancing a Framework for Showcasing Family Concerns: challenging the BBC Business News, May, 2012, Creativity – the unexpected trait of today's business leaders.

Bureau of Labour Statistics. Employment Status of the Civilian on Institutional Population, 1940 – date, Retrieved 22 August, 2013

CarMicheal, E. (2003). Government Support for Entrepreneurship in Nigeria: Exploring Challenges. Being the 76th Inaugural lecture of the University of Nigerian, Nsukkka, 27th June, 2013.

Droke, K. (2013). *7 Ways to Tap into your Creativity.* Orlando: Flitehaus Creative Agency Drucker, P. F. (2007). *Innovation and Entrepreneurship.* Oxford: Elsevier.

Ekpe, I. (2010). Poverty Reduction through Entrepreneurship Development in Nigeria, Being a Paper presented at the 2nd International conference on Technology and Operations Management, 5 – 6th, July, Bayview Hotel, Malawi. Entrepreneurship in a declining Economy. *Journal of Development and Entrepreneurship.*304-314

Habiba, S. (2010). Youth Entrepreneurship Education for National Development. International

Hartigan, P. and Billmore, J. (2005). Social Entrepreneurship: An overview. ALLIANCE, 10 (1) http://wikipedia.org.wiki/entreprenuerhip. retrieved 15 august, 2013

Igbo, C. A. (2006). Developing Entrepreneurship Through Entrepreneurship Education. In Anyakoha, E. U. Entrepreneurship Education and Wealth Creation Strategies. Nsukka: Great AP Express Publishers.

International Labour Organization (2013). Global Employment Trends. ILO

Jones, C. P. (2004). Investment Analysis and Management. USA: John Wiley and Sons Inc. journal for Educational Studies, Vol. 1 (2), 47 -50.

Kashim, I. B., Ogundiyile, S. R. and Adelabu, O.S. (2011). Culturally Inspired Design Education: A Nigerian case study.

www.intechopen.com, Retrieved 15th august, 2013.

Maiwada, S., Dutsenwai, S. A. and Waziri, M. Y. (2012). Cultural Industries and Wealth Creation: The case of Traditional Textile Industry in Nigeria. American International Journal of Contemporary Research, Vol.2 (5), 1 – 7.

Marco Giugni, ed. (2011). The Contentious Politics of Unemployment in EUROPE: Welfare States and political opportunities. Britain: Macmillan.

National Universities Commission (2004). *Drift Curriculum on Entrepreneurial studies for Nigerian University system*. Abuja: NUC.

Ntsakisi, M (20130. *SA Unemployment rate rises in first quarter*. Johannesburg: Business Day.

Okolo, S.B.A. (1994). *Children and Women's Rights in Nigeria: A Wake up call*. Nigeria: UNICEF.

Papalia, D.E., Olds, S.W. and Feldman, R.D (2002). *A Child's World Infancy through Adolescence*. Boston: McGraw Hill

Pendergast, D; Mcgregor, Sue L.T, and Turkki, K (2012). *Creating Home Economics Futures: the next 100 years.* Australia: Australia Academic Press.

Reynolds, P.D (2010) *Entrepreneurship in the United States: The future is now*. United States: Springer Books.

Saheed, Z.S. and Alofun, G.O.O. (2011) Entrepreneurship Development: The role of Nigerian Higher Institutions in providing Entrepreneurs. *Journal of Education and Leadership Development, Vol. 2,* 73 – 83.

Shane, S.A. (2003). *A General Theory of Entrepreneurship: The individual-opportunity Nexus*. N.T: John-Wiley.

Sullivan, A.S. and Suffrin, S. (2003). *Economics: Principles in Action*. New Jersey: Pearson Prentice.

Tchombe, T.M.S (2010). Entrepreneurship, Education and National Development. *International Journal of educational Studies, Vol. 1 (2)*, 5-9.

Uko-Aviomoh, E.E. (2013). Exploring New Horizon for the 21st century Home Economics professional, being a lead paper presented at the 6th National Conference of Home Economics Council of Nigeria, University of agriculture, Makurdi, 14-17 May, 2013.

Zhao, Y. (2012). *World Class Learners: Educating Creative and Entrepreneurial students.* California: Corwin Publishers.

Zoltan, A. and Audresh, D.B. (2003). *Handbook of Entrepreneurship Research: An Interdisciplinary Survey*. N.Y: Springer.

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Ways of Enhancing Enrolment into Home Economics Courses in Senior Secondary School in Owan Local Government Area Edo State

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Abstract

This study examined ways of enhancing enrolment into Home Economics course in senior secondary schools in Owan Local Government Area in Edo State. It employed a descriptive survey design using a structured questionnaire to collect data from a sample of 120 respondents. The data collected was analyzed using means of 2.5. The study revealed that there were low enrolment in the past years because of non availability of human and material resources and poor government concern amongst others.

Keywords: Home Economics, Students, Enrolment, Enhancement, Senior Secondary School.

Introduction

Home Economics is concerned with the well being of the family. It is a profession and field of study that deals with economics and home management. It is an applied field of study that integrates a lot of relevant disciplines which can help individuals, families and society at large improve their ways of living. It is also a field of formal study which includes topics such as consumer education, institutional management, interior decoration, home furnishing, clothing maintenance, laundry, food and nutrition, food preservation, child development and care, money management and family relationship amongst others. It is one of the vocational subjects and at senior secondary school level, it is splitted into clothing and textiles, garment making, foods and nutrition, home management, childcare and development then cattery craft. Vocational education according to Okoro,(1993) is a form of education that provides the skills, knowledge and attitude necessary for effective employment in specific occupation. It is an important stream of the educational system in many societies due to its impact on diversified human resource development Amaka. A, Favour N, Laju.A (2013). These areas of study will help students who are potential future homemakers, run their fulfilled family lives appropriately. It will also make them self-reliant thus making the world a better place to live. Home Economics helps in preparing students for future careers in order to adapt to changing economic times and technological situations. Flecks (2000) stated that Home Economic helps families and individuals to identify needs, make decisions and utilize resources to improve their quality of living. This field of study makes all these feats feasible owing to the different contributions made by its various courses.

Home Economics courses according to Anyakoha (2010) include: *Home Management* which is designed to equip the learner or students with the knowledge, skills and attitudes necessary for effective management of the home and wisely use those things which the family has to obtain things needed by the family. *Clothing and Textile* is designed to provide students with skills needed for fabric composition, clothing selection, home sewing and mending, clothing design and production, personal hygiene, good grooming and prepares them for working in textile and clothing industries or related jobs, every individual is a consumer of textile in one form or the other, either as a direct purchaser, a manufacturer or a merchandiser. Igbo CA (2013). Another is *foods and nutrition* which deals with the study of foods processing, preservation, preparation, meal management and service and prepares them for employment in foods and nutrition related jobs. In addition to these Home Economics courses are *garment making* which is designed to enable trainees to acquire competencies and skills needed to take body measurements, draft patterns, cut out different forms/styles of garment e.g. casual, formal, sports etc, assemble and finish garments. *Child development* and care which equips individual with the knowledge needed to build stronger relationships with their children and solve problems in caring for their children as they grow and develop. Other opportunities include garment constructions, shoe making among others, (Chidume and Igbo, (2012).There are however some constraints or limitations preventing the achievement of these, of which include lack of laboratory facilities as stated by Obunadike (2009) in Ewubare, (2010) that lack of laboratory facilities compel Home Economics teachers to use inappropriate methods of teaching also (Ewubare, 2010) pointed out that inadequate funding of colleges has often affected the teaching and learning of Home Economics. That is why Nwaokaomah (2010) recommended that students should be encouraged to buy their own equipments which will be useful in starting off their own business after graduation for economic empowerment and also that government should assist in funding the courses as well as regular maintenance on the existing equipments so as to keep them in continuous working condition for effective learning. Other constraints include image problem suffered by the clothing and textile industry Citeve (2007). It is left for the government and the society in Nigeria to uplift their image by making investments in the textile and clothing sector. Another is poor teaching methods and that is why Okoh (1983), pointed out that teachers should respect their students' ideas and questions in order to foster creative thinking in them and also teachers should stress on discovery and exploration for the students. Nwaokaomah (2010) suggested that workshops and seminars should be encouraged in Home Economics courses so as to update the knowledge of the teachers and also equip them with new trends in the use of equipments and machines. These Home Economics courses amongst others are vocational subjects included in the National Policy on Education to be studied at the senior secondary school levels (National Policy on Education) (NPE, 2013).

Senior secondary school education is according to the new policy on education, part of the new system of education that is 9-3-4 system of education (NPE, 2013). At this level of education, learners are exposed to various vocations and trades which they will study at the tertiary institutions. Thus education at this level if it is not well managed, could lead to the failure of the whole purpose of education. This is why Awambor (2001) suggested that teachers should be properly prepared during their trainings to meet with the challenges of parents and the public in all areas of learning which include Home Economics and which can prepare one for varied occupations and skills.

Enrolment according to Oxford Advance Learner's Dictionary is the act of officially joining a course, school etc that is the number of people who do this. It can also be seen as adding (someone), or have oneself added, to a list (as a pupil in the school, a member of a club etc). Enhancement on the other hand is the process of increasing or further improving of good quality, value or status of something thereby making something appear greater or better. In this case Enhancing Enrolment implies making the quality, value, status of students in Home Economics courses to be greater in number and better.

Home Economics occupational skills are those skills which can develop a person abilities and competencies needed to function effectively and face the challenges of life (Ifegbo, 2002). These abilities will constitute the work oriented competencies that attempt to improve efficiency and productivity of its recipients (Olua, 2010). Home Economics courses as stated in the National Policy on Education 2013, can at senior secondary school level provide entrepreneurial, technical and vocational job-specific skills for self reliance, commercial and economic development, provide trained manpower in the applied science, technology and at sub-professional grades, offer diversified curriculum to cater for the differences in talents, disposition, opportunities and future roles and also inspire students with a desire for self-improvement and achievement of excellence.

In spite of this usefulness of Home Economics courses, it appears that the students lack interest as noticed in declining enrolment. This study therefore sought to find out the reason for the low enrolment and how to remedy it. Teachers, schools and Home Economists and their associations can therefore play significant roles in increasing enrolment in Home Economics courses at the senior secondary levels.

Purpose of the Study

The main purpose of this study was to investigate ways of enhancing the enrolment of senior secondary school students in Home Economics courses in Owan Local Government Area. Specifically, the study sought answer to the following research questions:

1. What are the causes of low enrolment of students in Home Economics courses in Owan Local Government Area?
2. What can Home Economics teachers do to promote enrolment of students in Home Economics courses?
3. What role can schools play in promoting the enrolment of students in Home Economics courses?
4. How can the Home Economics Teachers Association in Edo State improve the enrolment of students in Home Economics courses?

Methodology

***Design of the study*:** Survey research design was utilized. Survey involves the use of questionnaire to gather opinion of respondents (Gall, Gall & Borg, 2008).The study was carried out in Owan Local Government Area Edo State.

***Population for the study*:** The population for this study comprises of all Home Economics teacher and principals in schools in Owan East Local Government Area of Edo State. They are 120 in number. The entire population was studied. So there was no sampling.

***Instrument for Data Collection*:** Questionnaire was used for data collection. It was developed based on the research questions of the study and literature review. It was validated by three Home Economics lecturers in tertiary institutions.

***Data Collection Technique*:** A total of 120 copies of the questionnaire were distributed to 120 respondents. A total 120 was returned showing 100 percent (%) of return. data.

***Method of Data Analysis*:** Mean of 2.50 was used to analyse the data. Any item with 2.50 and above was regarded as "agreement" while 2.49 and below was considered as "disagreement".

***Finding of the Study*:** The following are the results base on the research questions:

1. Causes of low enrolment of students in Home Economics courses in Owan Local Government Area. This is summarized in table 1

S/n	Causes of Low Enrolment	$\bar{x}$ (Mean Score)	Remarks
1.	Lack of professionals and experienced teachers	2.66	Agreed
2.	Lack of laboratories	3.00	Agreed
3.	Home Economics teachers sometimes make the lesson uninteresting	3.40	Agreed
4.	Teachers do not explain concepts very well during teaching.	2.20	Disagreed
5.	Brilliant students are not properly rewarded.	2.33	Disagreed
6.	Non-availability of teaching/learning facilities	3.33	Agreed
7.	Students are not drilled on practical.	2.93	Agreed
8.	Lack of funds for school authorities to carry out development programmes in Home Economics	3.27	Agreed
9.	The general misconception that the subject is for dull students	2.70	Agreed
10	Curriculum not geared towards solving problems	2.40	Disagreed
11.	Government attitude towards Home Economics	2.73	Agreed

Table 1 reveals that items: 1, 2, 3, 6, 7, 8, 9 and 11 have their mean ranges form 2.66-3.40 and this shows that their mean responses are above 2.50 which is the cut off point while items: 4, 5 and 10 have their mean ranges from 2.20-2.40 and are therefore below the cut off point.

2. Ways teachers can promote the enrolment of students in Home Economics courses. This is summarized in Table II.

S/n	Ways teachers can promote the enrolment of students in Home Economics courses	$\bar{x}$ (Mean Score)	Remarks
1.	Improving teaching method	3.53	Agreed
2.	Making teaching method more interesting	3.60	Agreed
3.	Use of teaching aids	3.60	Agreed
4.	Organizing workshop for teachers	3.47	Agreed
5.	Organizing seminars on Home Economics	3.60	Agreed
6.	Organizing exhibitions where Home Economics products and services are displayed.	3.33	Agreed
7.	Improvisation of teaching aids	3.33	Agreed
8.	Using extension programs	3.13	Agreed
9.	Creating awareness on the importance of different Home Economics courses.	3.47	Agreed
10	Rewarding students with prices	3.07	Agreed

Table 2 reveals that all the 10 items have their mean ranges from 3.07-3.60 and this shows that their mean responses are above 2.50 which is the cutoff point.

3. Ways schools can promote/improve the enrolment of students in Home Economics courses. This is summarized in table 3 below.

S/n	Ways Schools can Promote/Improve the Enrolment of Students in Home Economics courses	$\bar{x}$ (Mean Score)	Remarks
1.	Organizing career day	3.60	Agreed
2.	Sending teachers for workshop	3.67	Agreed
3.	Sending teachers for seminars	3.67	Agreed
4.	Providing resource materials for teaching	3.53	Agreed
5.	Principals/head of school showing interest in the subject	3.47	Agreed
6.	Encouraging teachers	3.53	Agreed

Table 3 reveals that all the six items have their mean ranges from 3.47-3.67 and this shows that their mean responses are above 2.50 which is the cut off point.

4. Ways Home Economics Teachers Association of Nigeria (HETAN) can help in promoting enrolment of students in Home Economics courses in senior secondary school. This is summarized in table 4 below.

S/n	Ways Home Economics Teachers Association of Nigeria (HETAN) can help in Promoting enrolment of Students in Home Economics Courses	$\bar{x}$ (Mean Score)	Remarks
1.	Making representation to the different tiers of government	3.20	Agreed
2.	Providing seed money for practical	3.53	Agreed
3.	Conducting research	3.67	Agreed
4.	Inviting resource person to speak to teachers	3.67	Agreed
5.	Motivating teachers	3.53	Agreed
6.	Instituting prizes for schools	3.53	Agreed
7.	Through sensitization	3.47	Agreed
8.	Offering scholarships	3.33	Agreed
9.	Organizing in-service training for teachers	3.53	Agreed

Table 4 reveals that all the nine items have their mean ranges from 3.20-3.67 and this shows that their mean responses are above 2.50 which is the cut off point.

Discussion of the Findings

The findings on research question one revealed that items Lack of laboratories and Non-availability of teaching/learning facilities are some of the causes of low enrolment of students in Home Economics courses in Owan Local Government Area. This is in line with Obunaedike (2009) in Ewubara (2010) that Home Economics have some limitations which include lack of laboratory facilities and thereby compelling Home Economics teachers in using inappropriate methods of teaching. Also item 10: Curriculum not geared towards solving problems being disagreed by respondents support (National Policy on Education, 2013) that Home Economics courses can at senior secondary school level provide entrepreneurial technical and vocational job-specific skills for self reliance, provide trained manpower in applied science amongst others.

The findings of research question two as presented in table II revealed that all the items: Organizing workshop for teachers and Organizing seminars on Home Economics are ways teachers can promote the enrolment of student in Home Economic courses. This is in line with Nwaokaomah (2010) that workshop and seminars should be encouraged in Home Economic courses so as to update the knowledge of the teachers and also equip them with new trends in equipment and machines.

The finding of research question three as stated in table III revealed that: Sending teachers for workshop, Sending teachers for seminars and Providing resource materials for teaching are ways schools can improve the enrolment of students in Home Economics courses. This is also being supported by Nwaokaomah (2010) that workshops and seminars should be encouraged and also that students should be encouraged to buy their own equipments for practicals. This can be feasible if the principal/head of school shows interest in the subject thereby encouraging the teacher.

The finding of research question four as stated in table IV revealed that: Inviting resource person to speak to teachers and through sensitization are ways Home Economic Teachers Association of Nigeria (HETAN) can improve enrolment of students in Home Economics courses. This is in line with Chidume and Igbo (2012) that one of the Home Economics courses (textile and clothing) industry sector is suffering from an image problem. There is therefore need for sensitization, motivating teachers, conducting research and so on so as to uplift the image of the sector.

Conclusion

It is evident from the research that Home Economics face some constraints in it's effectiveness and efficiency as noticed in decline enrolment of students in it's courses. The causes have been identified and also ways by which teachers, schools and HETAN can help improve their different ways of handling these Home Economics courses has also been stated so as to make it welcoming for the students and thus improve it's effectiveness maximally.

References

Anyakoha, E.U. (2007). Home Economics for Junior Secondary School's Revised Editions Lagos AFP African Publishers Ltd.

Awanbor, D. (2001). *Training, Retention and Utilization of Technology Teachers in Nigeria:* Trends in Technology teacher Education in Nigeria.

Chidume, E. U. and Igbo, C. A. (2012). Social Challenges of Young Entrepreneurs in Textile and Clothing Establishments in Lagos State. *Journal of Home Economics Research* 16:2.

Citeve, F. (2007). The development of the European textile and clothing industry (Portugal). Retrieved on 7/7/2009 from http://eesc.europa.eu/sections/ccmi/textile/brochure/documents/Hearing_procceding_EN.pd.

Ewubare, M. U. (2010). *Strategies for Promoting Entrepreneurship Education in (NCE) Home Economics* Pg 138-139.

Fleck, (2000). Towards *Beiler Teaching of Home Economics* (ed) New York: Macmillan Publishing Company Inc.

Hearth (2005, January). Retrieved on 19/07/2014 from http://hearth.library.cornell.edu/

Kembe, E. M. (2008). *Evaluation of the Business added value of Home Economics graduates in Benue State:* Implications for Curriculum Innovations in Home Economics Research 9: 1-2.

Nwaokaomah, A. (2010). Strategies for Promoting Entrepreneurship Opportunities in Clothing and Textile Education. *Journal of Home Economics Research* Pg47.

Okoh, N. (1983). Creativity: Its detection, Nature and Development in the Child Professional Education. *A book of readings*. Benin Ethiope Publishing Corporation.

Okoro, O.M. (1993). *Principles and Methods in Vocational and Technical Education*. Nsukka: University Trust Publisher.

Texas Essential Knowledge and Skills for Home Economics Education (1998, September 1). Retrieved on 19/07/2014 from http://www.tea.state.tx.us/rules/tac/ch122.html#s122/.

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Practices Adopted by Families in Coping with Crisis of Unemployment in Kaduna State

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Abstract

This study investigated the strategies for improving the practices adopted by families in coping with crisis of unemployment in Kaduna state. Two research questions and two hypotheses guided the study. A descriptive survey research design was adopted and the area of the study was Kaduna State. Questionnaire and Focus Group Discussion (FGD) were used for data collection. Data were analyzed using mean and t- test. The FGD discussion information was also summarized. Findings include 14 coping practices that could be adopted and eight strategies for improving coping practices adopted. Based on the findings recommendations were made.

Key Words: Challenges, Family, Coping, Strategies, Crisis, Unemployment

Introduction

Crisis puts the family into a state of disequilibrium and decreased functioning because of the effects of the stressful situation (Robert, 2000). The effects of family crisis include, among others, nightmares, confusion, fear and breakdown in communication (Queensland Government 2010).Family crisis is an event that occurs when the steady state of family functioning is disorganized due to problems that are above the coping capacity of the family. Such situations include, illness, divorce, adolescent problems, alcoholism, unemployment or loss of job, death (Anyakoha, and Eluwa 2010).

Unemployment is one of the problems facing many people today. It leads to economic waste, suffering in the family. It is the main cause of poverty and ill health. Economic crisis leading to unemployment is among the most important causes of sharp increase in the incidence of poverty. The poverty outcome of the crisis of unemployment for a particular household depends crucially to the extent a household is exposed to hazards of the crisis and its ability to respond or cope with such peril(Lokshin and Yemtson 2013). When people go through the crisis of unemployment they also experience strained relationship (Mcclelland 2014). Families are also exposed to poor health, housing stress, and the development of children may be affected (Paul and Moses 2012, Mcclelland 2014).

Family crisis pose various forms of challenges which necessitate various forms of adjustments and coping strategies. Every family has coping practices they use in managing crisis to ensure the survival of the family system. In spite the use of these coping practices, families still experience various forms of challenges. When the health and economic status of members of a family is maintained, level of productivity is always high. Health is the state of complete physical, mental, social, intellectual and spiritual wellbeing and not merely the absence of diseases and infirmity. (Payne and Hahn, 2000). Due to lack of financial resources families live at the poverty level (Akintoye 2008). The family may lack money for basic amenities like feeding, housing, clothing, health and education.

As a result of the present global economic recession and other conditions prevalent in the country, some establishments have adopted downsizing and other related strategies. These have given and continues to give rise to job cuts and job losses. The result is unemployment for many including heads (breadwinners) of households. The unemployment of the breadwinner always mean crisis for the family. Family goals can no longer be achieved. Family could be overtaken by poverty and related vices. In such situations families or households need to evolve appropriate coping strategies. These are applicable to various states in Nigeria including Kaduna.

Purpose of the Study

The major purpose of this study was to evolve strategies for improving the practices adopted by families in challenges arising from unemployment of heads of families in Kaduna State. Specifically, the study determined:

1. the coping practices which family could adopt during crisis of unemployment of head of family.
2. the ways families could be helped to improve their coping strategies in dealing with challenges arising from crisis of unemployment.

Research Question

1. What are the coping practices that could be adopted by families in crisis of unemployment of family heads?
2. What are the ways through which families can be helped to improve their coping strategies in dealing with challenges arising from crisis of unemployment of heads of families?

Hypotheses

The following hypotheses were tasted by this study at 0.05 level of significance.

HO_1. There is no significant difference in the mean responses of family heads that resides in urban and rural areas on coping practices which families could adopt during crisis of unemployment of heads of family.

HO_2. There is no significant difference in the mean responses of literate and non literate family heads on ways through which families could be helped to adopt strategies for coping with unemployment of head of the family.

Methodology

Design and Area of Study: The study adopted a descriptive survey research design The area of the study was Kaduna State of Nigeria. Kaduna state has three senatorial zones namely Kaduna Central, Kaduna North and Kaduna south. Kaduna North and Kaduna south are made up of eight (8) Local Government each while Kaduna central has seven (7) LGAs making a total of twenty three (23) LGAs,(Kaduna state Government 2010). Trading and farming are the predominant occupation of the people of Kaduna State . There are also civil servants and employees in numerous establishments in the area.

Population for the Study: The target population of this study consisted of both male and female heads of family in Kaduna state. The National Bureau of Statistics (NBS) and Annual Abstract of Statistics 2008 indicated that Kaduna state is made up of 1,144,276 heads of families.

Sample and Sampling Technique : The sample size for the study comprised of 1350 heads of families. Multistage sampling technique was used in the selection of the respondents for the study. The entire three senatorial zones were selected. In the first stage, three Local Government areas (LGA's) were randomly selected from each senatorial zone in the state to give a total of nine LGAs for the study. In the second stage, six communities were randomly selected from each of the nine LGAs, making a total of 54 communities across the state. In the last stage, from the 54 communities selected in the state the longest street was purposely selected to give 54 streets. From each of the streets, 25 heads of family were randomly selected making a total of 1350 heads of families. A total of 10 participants were also selected from each of the three senatorial zones to give a total of 30 participants who took part in focus group.

Instrument for Data Collection: The instruments for data collection for the study were Family Crisis Coping Practices Questionnaire (FCCPQ) and a Focus Group Discussion (FGD) guide. They were developed through extensive literature review based on specific purpose, of the study. Items on the questionnaire was based on 5-point scale of Strongly Agreed (5), Agreed (4), Undecided (3), Disagreed (2), Strongly Disagreed (1). The instrument was subjected to validation by three experts in the field. Furthermore, the reliability of the instrument was determined using Cronbach Alpha. A reliability coefficient of 0.88 was obtained. The FGD had set of questions that were based on the purpose of the study.

Data Collection Technique: A total of 1350 copies of the questionnaire were administered to the respondents by the researcher and six research assistants through personal contact. This was to ensure high rate of return of the questionnaire, 1203 questionnaire were retrieved. One session of FGD was organized in one LGA from each senatorial zone and ten heads of families were selected making a total of 30 respondents. The FGD was organized and conducted by the researcher and one trained research assistant. The research assistant served as the facilitator during the sessions. Discussions were recorded on tapes, notes were also taken by the researcher. Each session lasted for about one hour few minutes

Data Analysis Technique: Data were analyzed using mean and standard deviation to answer the research questions and any item whose mean value was 3.00 and above was regarded as 'agreed' while those items whose mean values were below 3.00 were regarded as 'disagreed'. The null hypotheses were analyzed using the t-test at significant level of 0.05. The data gathered through focus group discussion on each of the specific purposes of the study were recorded and summarized.

Finding of the Study

The following findings were made:

1. Fourteen coping practices adopted by families in coping with challenges arising from crisis of unemployment of heads of families.
2. Eight coping strategies for improving the coping practices of challenges arising from crisis of unemployment of heads of families.

Table 1: Means and t-test Analysis of the Responses of Family Heads in urban and rural areas on Coping Strategies that could be Adopted on Challenges Arising from Crisis of Unemployment of the Head of the Family

SN	Coping strategies that could be adopted.	Unemployment				
		$\overline{X}_m$	$\overline{X}_f$	$\overline{X}_g$	SD	t-value
1.	Have savings account for children's education.	3.7	3.1	3.4**	1.13	15.5*
2.	Have general savings account for the family	2.4	1.6	2	0.00	22.8*
3.	Have savings towards building a personal house and other major projects	4.8	4	4.4**	0.34	39.8*
4.	Have effective control of family spending	2.9	1.1	2	0.00	29.4*
5.	Buy stocks/bonds when there is money	3.56	2.64	3.1**	0.99	39.9*
6.	Keep poultry and rear goat/sheep and other activities to raise money during unemployment.	4.11	3.69	3.9**	0.99	6.9*
7.	Be involve in farming and gardening during unemployment	4.5	4.3	4.4**	0.48	13.9*
8.	Seek for loan to establish a business in unemployment situations	4.61	3.79	4.2**	0.43	6.9*
9.	Seek for emotional support from immediate family members	2.11	1.49	1.8	0.43	12.27*
10.	Seek for emotional support from friends during grief in unemployment of head of the family.	3.56	3.24	3.4**	1.13	28.49*
11.	Seek for emotional support from spiritual leaders.	3.45	2.55	3**	1.96	28.49*
12.	Seek medical help from experts	2.5	1.1	1.8	0.44	12.13*
13.	Re-assure oneself and other members of the family	4.6	4.4	4.5**	0.34	2.27*
14.	Be open to extended family members and friends	3.5	2.9	3.2**	0.97	5.94*
15.	Seek for counseling from family expert (family therapist, social workers and counselors)	4.6	4.4	4.5**	0.00	7.94*
16.	Avoid use of hard drugs	4.7	4.5	4.6**	0.39	28.4*
17.	Avoid smoking of cigarette	3.6	2.8	3.2**	0.98	14.27*
18.	Avoid getting drunk with alcohol	4.4	4.2	4.3**	0.47	4.36*

Key: $\overline{X}_m$= Mean for Urban, $\overline{X}_f$ = Means for Rural, $\overline{X}_g$= Overall Means, SD = Standard deviation *=Significant at 0.05 level of significance, ** = agreed df = 1201 t- critical = 1.96.

Table 1 shoes that 14 out of 18 coping strategies that could be adopted on challenges arising from crisis unemployment of the head of the family had a mean score of 3.1 to 4.4 which is above the cutoff point of 3.00, having savings for children education and personal house, buying bonds, keeping poultry, farming and seeking loan for establishing business, seek for emotional support from spiritual leaders, avoid use of drugs, smoking cigarette and drinking alcohol were all agreed on by the respondent, while seek for emotional support from immediate family members, control of spending and general family saving ,seek for medical help from experts were disagreed on and they have a mean score of between 1.8 to 2.0.

Table 1, also shows that all the items on coping strategies that could be adopted on related challenges arising from crisis of unemployment of heads of family are significant at 0.05 level, this is because the t-calculated values for the items are higher than the t-table values at 0.05 level given the degree of freedom obtained. So, Ho_1 was not accepted for all the items for unemployment of heads of family.

Focus Group Discussion also reveals the following Coping Strategies that could be adopted in relation to challenges of unemployment of head of the family.

- General savings is good but it may be impossible for the unemployed.
- Other businesses like keeping poultry, rearing goat and sheep.
- Get other paid jobs or paid employment
- Spiritual help from religious leaders
- Discuss with relatives, friends' and experts for help.

Ways of Improving Coping Strategies on Challenges Arising from Crisis of Unemployment of the Head of Family.

Table 2: Mean and t-test analysis of the Responses of Literate and Non-Literate Family Heads on Ways of Improving Coping Strategies on Challenges arising from Crisis of Unemployment of the Head of the Family

SN	Improving coping strategies on challenges	Unemployment				
		X_m	X_f	X_g	SD	T-value
1.	Buy stocks/bonds for each family member.	4.5	4.3	4.4**	0.47	2.68*
2.	Plan and execute family savings.	4.4	4.2	4.3**	0.47	0.71
3.	Seek financial help from friends/extended family members.	4.3	4.1	4.2**	0.39	14.74*
4.	Seek financial help from religious organizations and NGO's.	3.7	3.1	3.4**	1.17	3.47*
5.	Each member should be able to support the family financially if they have the capacity.	4.8	4.6	4.7**	0.44	3.74*
6.	Members can take up new roles in the home in order to reduce expenditure of paying for such services.	4.4	4	4.2**	0.39	-11.39*
7.	Members to use their talents in exchange for money during crisis of unemployment.	4.6	4.8	4.7**	0.34	14.74*
8.	Reduce expenditure by having garden family rearing chicken, goat and sheep during crisis	4.5	4.3	4.4**	0.34	1.11

	unemployment					
9.	Family members should plan budget and avoid impulsive buying in unemployment situation	4.3	4.1	4.2**	0.39	1.21
10.	Medical help as a family	4.3	4.1	4.2**	0.39	23.3*
11.	Seek counseling from psychologist	3.68	3.32	3.5**	0.89	12.2*
12.	Seek counseling from spiritual/religious leaders	4.1	3.1	3.6**	1.03	1.19

Key: $\bar{X}_m$ = Mean for Literate respondents, $\bar{X}_f$ = Means for literate respondents, $\bar{X}_g$ = Overall means, SD = Standard Deviation * = Significant at 0.05 level of significance, ** = agreed df = 1201 t – critical = 1.96

Table 2 reveals that all the items on ways of improving coping strategies identified on related challenges of unemployment of the head of the family obtained mean that ranged from 3.4 to 4.7.

Table 2 also shows that respondents agreed on all the twelve items highlighted on the table as ways of improving coping strategies in crisis of unemployment of the family head. The mean scores ranges from 3.4 to 4.7 which is above the 3.00 cut off point. The SD ranges from 0.34 to 1.17 which shows closeness in mean opinion of the respondents. Eight out of the twelve items are significant at 0.05 levels while four are not, therefore the four items were accepted and the remaining eight items were not accepted at 0.05 level of significance.

Focus Group Discussion also reveal the following ways family could be helped to improve their coping strategies:

- Family heads and members should learn the art of budgeting
- Family member should stop impulsive buying.
- Family heads and their members should plan savings on monthly basis.
- Family members may source financial help from friends, extended families, NGOs, financial institutions, and other related bodies.
- Members should take up new roles to reduce expenditures.

Discussion on Findings

The study reveals that the mean responses of heads of family in both urban and rural areas on coping practices that could be adopted on challenges arising from crisis of unemployment of heads of family.

Table 1 reveals that savings for children's education, having personal family house, buying of bonds, keeping of poultry, getting involved in farming, seeking for loan for establishment of business, seeking for emotional support from spiritual leaders, avoiding the use of drugs, including cigarette, and drinking of alcohol, are all coping practices that could be adopted. This finding collaborate those of Nichols and Mitchell (2013) who pointed out that during crisis people need to avoid use of drugs, smoking cigarette and alcohol as a means of escape but support can be obtained from outside the family. The respondents disagreed on the following items seek for emotional support from immediate family members, control spending, have general family savings, and seek for medical help from experts, Sasse (1997) has a different view and she suggested that it is good to have someone to talk to when one is in crisis while Lauer and Lauer (1997) suggested the use of friends, neighbors and community support in coping with crisis.

The FGD revealed that it is good to have general savings but it may be impossible for someone who is unemployed, and that in most cases even when people are employed the money seems not to be sufficient for basic needs and savings. The respondents agreed that business like keeping poultry is good, rearing goats and sheep are adequate but to raise initial capital is always difficult. They also agreed that it is appropriate to discuss and seek help from relatives that are understanding and accommodating, but if not it is better to avoid such people. The FGD also revealed that it is good to discuss and seek for help from friends while seeking for help from experts may be difficult since it is not free. The findings on ways of improving coping strategies in challenges arising from crisis of unemployment of heads of family reveals that the respondents agreed on buying of stocks and bonds for each family member, plan and execute family savings, seek financial help from friends, extended family members, religious organization and NGOs. They also agreed that adult members should be able to support the family financially and take up new roles if need be. Families should reduce expenditures and use their talent in exchange for money, reduce expenditure through gardening, rearing of chicken, goats and sheep, plan budget, avoid impulsive buying, and seek counseling from religious leaders. In the FGD, the respondents agreed that heads of families and their members must learn to plan budgeting and abide by it, since most of the times families end up with impulsive buying. Heads of families and their members should learn to save on monthly bases and members should take up new roles and reduce unnecessary expenditure, Maccubin and Maccubin (1993) agreed that families should learn the art of saving towards crisis situations and Weigel and Weigel (1997) also suggested that religious beliefs are very crucial in coping during crisis, all these suggestions are consistent with the responses of heads of family on ways of improving families coping strategies.

Conclusion

The study determined the practices that could be adopted by families in challenges arising from crisis of unemployment of the heads of the family and the strategies for improving the practices adopted by families in coping with challenges arising from family crisis of unemployment in Kaduna state. Based on the findings, the following conclusions were made; families go through challenges in crisis of unemployment of heads of family. They equally have some coping practices like, saving towards children’s education, having a personal house, keeping poultry, farming and avoiding the use of drugs, alcohol and cigarettes that could be adopted, but despite the use of these practices there is still the need to improve the practices adopted so that heads of families and their members can cope better in the face of these challenges. If families will improvement their coping strategies in challenging arising from crisis of unemployment of heads of family then family survival will improve.

Recommendations

Based on the findings of this study the following recommendations were made:

1. Heads of families and their members should learn and practice how to plan

budget, control spending and keep savings account.

2. Curriculum experts should introduce those skills, knowledge and attitude needed for self employment at all levels of education.
3. Home Economist should organize workshops and seminars in order to educate families on how to cope in challenges during unemployment of heads of families.
4. Government and Non Governmental Organizations (NGOs) should work together to provide monthly allowance for families whose heads are not employed.
5. Free social welfare counseling should be provided in each community and religious leaders should endeavor to identify the unemployed heads of families in their communities, counsel and assist these people.

References

Anyakoha, E.U and Ehiwa, M.A. (2010). *Home Management for Schools and Colleges, Onitsha Nigeria.* Africana First Publishers.

Akintoye, O. (2008). Enhancing the Performance of the Informal Sector for the Economic Development of Nigeria: A Case Study of Lagos State. *International Journal of Social Science* 5(1), 100-112.

Lamanna, M. and Reidman, A. (2003), *Marriage and Families: Making Choices in a Diverse Society.* Thomson Wadsworth U.K.

Lauer, R. and Lauer, J. (1997), *Marriage and Family, The Quest for Intimacy,* New York, USA: Mcraw Hill Company.

Lokshin, M. and Yemitson, .R (2013), Household Strategies for Coping with Poverty and Social Exclusion in Post-Crisis. *Russian European Journal of Development Research*, Vol. 11(1) 101-124.

McCubbin, H. and McCubbin, I. (1993), *Family Coping with Health Crises; the Resiliency Model of Family Stress, Adjustment and Adaptation,* New York. U.S.A: Haworth Press.

McClelland, A. (2014), Effect of Unemployment on Families. *Economic and Labour Review* 25(1).

National Bureau of Statistics (2008), *Annual Abstract of Statistics.* Produced under the auspices of Federal Government Economic Reform and Government Project.

Paul, K. and Moses, K. (2012), Unemployment Impairs Mental Health Meta-Analyses. *Journal of Vocational Behavior*, Vol. 24(1) 264-284.

Payne, W. and Hahn, D. (2000) *Understanding your Health,* New York, McGraw Hill Companies

Queensland Government (2010), A. (2010), *Family and Crisis.* Retrieved from www.health.qld.gov.au.

Robert, A. (2000), An overview of Crisis Theory and Crisis Intervention. In *Crisis Intervention Handbook: Assessment, Treatment and Research.* New York; Oxford University Press.

Sasse, C. (1997), *Families Today,* New York, U.S.A, McGraw Hill Company.

Spio-Garbrach, E. (2000), "Strengthening the Home and Family" paper presented at the *19th World Congress of the International Federation of Home Economics,* University of Ghana.

Weigel, R. and Weigel, D. (1997), *Identifying Stressors and Coping Strategies in two-generation Farm Families.* Family Relations 36(2), 10-15.

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Organoleptic Attributes of Bread and Biscuit Produced from Composite Flour of Plantain (*musa abb*) and Wheat (*triticum aestivum l*)

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Abstract

This paper assessed organoleptic attributes of bread rolls and biscuits made from wheat and plantain composite flour, with wheat as control. Four kg of unripe plantain was processed into plantain flour and mixed with wheat in a ratio of 70:30, used to bake bread and cake. A 9 point hedonic scale was used to assess organoleptic attributes, Proximate analysis was also carried on product samples. One hundred judges were involved in the study. The result showed that the products had an appreciable protein 10.50%, 13.40% and 8.61% and 8.50%. The sensory texture of the plantain bread ranked 18.6%, wheat bread 20.3% plantain biscuit 17.8%, wheat biscuit 22.4%. All products were acceptable with acceptable percentages; plantain bread 24.2%, wheat bread 22.9% plantain biscuit 20.1%, wheat biscuit 19.4%, respectively. Plantain composite flour products which are acceptable also had a protein content of plantain bread 10.50%, and plantain biscuit 13.40%.

Key words: Organoleptic, Attributes, Acceptability, Biscuit, Bread, Composite.

Introduction

Wheat (*triticum aestivum*) is one of the important cereal grains. Wheat flour which is traditionally used for baked products in Nigeria is becoming more expensive. Wheat can be blended with various types of flours including plantain flour.

Plantain (*musa abb*) is an important staple food in Central and West Africa and other developing countries. International Institute of Tropical Agriculture (IITA,) (2012) reported that in West Africa, plantain production in West Africa was 8,462.530 ton, with Nigeria having a production ton of 2,733.300, Ghana, 3,532.730 and Cote D'voire, as the greatest producers. Plantain (*musa abb*) is among the major staple food crops in Nigeria. It ranked third after yam and cassava in consumption (Oyebade, Adeyemo and Olafide, 2013). It is often consumed, boiled, fried or roasted. Food and Agricultural Organization (FAO, 2004) stated that amidst the over millions of metric tons of plantains that are produced in Nigeria annually, about 35-60% post harvest losses has been reported and attributed to lack of storage facilities and inappropriate technologies for food processing. The unripe plantain is processed into flour and is used for the preparation of plantain gruel when mixed with appropriate quantities of boiling water to form a thick paste. Unripe plantain contains large amount of carbohydrates and some minerals such as phosphorus, calcium, potassium and vitamin A and B (IITA 2006). Unripe plantain as a plant food contains iron of the non-heme type (Ene-Obong 2001). The unripe plantain is also a rich source of dietary fiber. The three main ways of preparation of plantain for consumption (boiling, roasting and frying) make the consumption of plantain monotonous (Food and Agricultural Organization, FAO, 2003). It therefore becomes necessary to evolve other ways of preparing plantain so as to enhance variety of plantain dishes and plantain consumption. Such ways should also promote processing, storage and preservation of plantain. Processing plantain into flour is a promising way in this direction.

Horsefall (2010) showed that plantain flour has a good potential for use as a functional agent in bakery products on account of its high water absorption capacity. Since unripe plantain composite flour has been found by (Horsefall 2010) to have good baking qualities, it becomes necessary to find a means of incorporating the composite flours for making confectionaries such as if accepted, can be a novel food carrier for plantain consumption because it will add variety to the common ways of consuming it before. This carrier, when established could ultimately become part of the diet of Nigerian. When the unripe plantain is processed into composite flour, it helps in preservation; (Egbebi, and Badamosi 2011). The plantain composite flour contains resistant starch and dietary fiber (FAO, 2004). Resistant starch (RS) is a starch fraction that does not produce glucose to the body and resist enzymatic digestion in the small intestine but fermented in the colon by bacterial microflora, producing gas and short chain fatty acids (IFPRI and WFP 2010). The effects of RS are comparable to those of dietary fiber and it is therefore usually considered as a component of the friction (Olagunju and Ifesan 2013). Composite flour production from unripe plantain presents high variability for the food industry mainly in bakery products and infants feeds because of its free sources of RS and mineral salts such as potassium, iron, calcium, magnesium and surphur (Adelekan, Aminat, Alamu, Ogunfowora, 2003). At the end of this research work, the results might help to provide a novel recipe of baked products in an acceptable form that might increase the consumption of unripe plantain food crops in Nigeria.

Purpose of the Study

The general purpose of the study was to carry out a sensory assessment and acceptability of bread and biscuit products made from plantain (*musa abb*) and wheat composite flour. Specifically, the study,

1. determined the proximate composition of the products produced from processing unripe plantain into plantain/wheat composite flour.
2. determined the acceptability of plantain/wheat bread and plantain/wheat biscuit

Methodology

Material: four kg of unripe plantain fingers were purchase at Eke Ehamufu in Isi-Uzo Local Government Area of Enugu State, Nigeria. The plantain fingers were picked, pilled and sliced into thin slices of about 1/18 inches. The slices were soaked for 3hrs in deionized water to avoid discoloration. Drying was carried out in an air oven at a temperature of 80^{o}c and milled. The flour was stored in an air tight container, and put into the refrigerator.

The plantain/wheat composite flour was formulated at the ratio of 70:30 after one week, margarine, sugar, baking powder, yeast and egg were purchased and panelists were ready for the sensory evaluation.

Recipe for plantain/wheat bread roll (Experiment)		Recipe for wheat bread (Control)	
Ingredients	**Weight (g)**	**Ingredients**	**Weight (g)**
Composite flour	50	Wheat flour	50
Nutmeg	4	Margarine	70
Margarine	70	Sugar	50
Sugar	50	Baking powder	37
Baking powder	37	Milk	55mls
Milk	55mls	Vanilla	8
Vanilla	8g	Nutmeg	4
Egg	6	Egg	5
Water	5mls	Water	5mls
Yeast	15	Yeast	15

Procedure for the production of plantain/wheat bread roll.

- Weight the ingredients and set them on a surface table
- Mix the flour, sugar, margarine, salt and baking powder with the finger tips till the mixture looks like bread crumb or fried garri.
- Add the reconstitute powdered milk with the water and add into the mixture.
- Whisk the egg and add to the mixture.
- Add the vanilla and the nutmeg and mix the dough thoroughly. Knit well to incorporate air.
- Use a rolling pin, and roll out, then cut into the desired shape, each weighing 10g.
- Allow to stand for about 2hrs.
- Re roll each dough and set back finally into the greased bread mould and allow standing for another 15mins.
- Bake into pre-heated oven at 100°c for twenty minutes.

Production of wheat bread (control)
Procedure for the production of plantain/wheat bread roll.

- Weight the ingredients and set them on a surface table
- Mix the flour, sugar, margarine, salt and baking powder with the finger tips till the mixture looks like bread crumb or fried garri.
- Add the reconstitute powdered milk with the water and add into the mixture.
- Whisk the egg and add to the mixture.
- Add the vanilla and the nutmeg and mix the dough thoroughly. Knit well to incorporate air.
- Use a rolling pin, and roll out, then cut into the desired shape, each weighing 10g.
- Allow to stand for about 1:30 mins.
- Reroll each dough and set back finally into the greased bread mould and allow to stand for another 15mins.
- Bake into pre-heated oven at 100°c for twenty minutes.

Recipe for Plantain/wheat biscuit (Experiment)		Wheat biscuit (Control)	
Ingredients	**Weight (g)**	**Ingredients**	**Weight (g)**
Composite flour	50	Wheat flour	50
Margarine	70	Margarine	35
Sugar	50	Sugar	25
Milk	55	Milk	25
Baking powder	37	Baking powder	10
Vanilla	8	Vanilla	3
Nutmeg	3	Nutmeg	3
Water	3mls	Water	1.5mls
Egg	6	Egg	3

Procedure for the production of plantain/wheat biscuit

- Weight all the ingredients and set them on a surface table
- Crème the margarine and sugar together.
- Add the liquid ingredients and continue to crème.
- Add the flour bit by bit and continue to mix using cutting and folding method.
- Cut some portion and roll out on a greased rolling bread
- Cut into desired shape using a biscuit cutter.
- Use ice pipe to pipe some of the biscuit into the greased baking tray
- Bake into pre-heated oven for 15 minutes.

Production of plantain/wheat biscuit (control)

- Weight all the ingredients and set them on a surface table
- Crème the margarine and sugar together.
- Add the liquid ingredients and continue to crème.
- Add the flour bit by bit and continue to mix using cutting and folding method.
- Cut some portion and roll out on a greased rolling bread
- Cut into desired shape using a biscuit cutter.
- Use ice pipe to pipe some of the biscuit into the greased baking tray
- Bake into pre-heated oven for 15 minutes.

Sensory Evaluation

***Population of judges*:** One hundred students and 32 members of staff of school at Vocational Education Federal College of Education, Eha-Amufu, Isi-Uzo Local Government Area of Enugu State were used for the study.

***Sample for Judges*:** the population of the judges was made up of 100 students and 32 members of staff of School of Vocational Education, Federal College of Education, Eha-Amufu. One hundred (100) judges were randomly selected comprising 45 males and 55 Females.

***Instrument for Data Collection*:** A 9-point hedonic scale was developed as an instrument for sensory evaluation. The organoleptic attributes evaluated were:

- flavours,
- colour,
- texture, and
- general acceptability of the bread roll and biscuits.

The instrument was validated by five (5) lecturers in the Department of Home

Economics, Federal College of Education, Eha-Amufu.

***Data Collection/Analysis Technique*:** The study was carried out at the Food Laboratory, Home Economic Department, Federal College of Education, Eha-Amufu. The laboratory environment was quiet without interruption. The judges came into the laboratory for the evaluation in batches of 25 persons each. They were served separately one batch after another. Each had a glass of water to rinse mouth after the tasting of each sample. Data were analyzed using mean and standard deviation.

Chemical Analysis

***Moisture Content*:** Moisture was determined by hot air oven drying at 105^{o}c to constant weight Association of Official Analytical Chemists (AOAC, 1990, 1995). Protein ash and carbohydrate micro Kjeidahi, N x 6.25), crude fiber and fat were determined by AOAC (2010). Moisture was determined by placing two grammes of the baked samples in a clean weighted porcelain dish and placed inside the oven to dry. After this, the dishes were brought out again, cooled and re-weighted till the weight became constant. The moisture accumulation was done in percentage.

***Protein determination*:** The sample was weighed into Hach digestion flask and heated for 45 minutes at 44^{o}c till the sample became charred. Clean tap water was added to each sample to clear off the small black particles to obtain a colourless liquid. The flask was allowed to cool and the content was made to 100ml in a 100ml volumetric flask with deionized water, some drops was added in mineral stabilizers and allowed to mix together. Add Nessler's reagents, wait for 5minutes and then calculate:

***Fat determination*:** The sample was added to some meals of a corn oil to a 5ml conical graduated centrifugal tube, stirred to dissolve the sample in the oil. The sample stood for a period of 30 minutes prior to centrifuge at 5000rpm for 25mins, the volume of free oil was reacted. Fat absorption was expressed as the amount of oil bound by long sample on moisture or on dry basis.

***Carbohydrate determination*:** Ethanol was used to extract sugar from the product. The residue was hydrolysed with percarbohydrateric acid to be a monosaccharide. The sugar was made colourimetric using phenol and sulphuric acid. The sugar was analysed by converting residue sugar and multiplying the residue by 0.09. The residue fraudigar analysis was added to some perchoric acid and stood for 1 hour, then the mixture was diluted with distilled water and an adequate of ml was taken for analysis. The colour here developed with phenol and H_2SO_4

***Ash determination*:** Porcelain crucible was washed oven dried and allowed to cool in a dessicator and weighed. The sample was placed inside the already weighed crucible. The product was ignited over a low flame for 3 hours. The crucible was taken out to a dessicator, allow to cool then weighed.

***Crude fibre determination*:** The products were weighed into long beaker containing 200ml boiling water. Sulphuric acid (H_2SO_4) was added, boiled and reflewed for 30minutes. After the boiling, the sample was filtered through Whitemanerf. The residue transferred from the paper bag to the beaker with the aid of hot water 1.25% to NaOH to 200ml of water. The procedure was reflacted – paper was transferred with residue into a crucible dried over night, cooled in to obtain weight a. The samples were put back in furnace at 600°C to for 3hours and weighed to obtain weight B. The loose in weight occurred during incineration.

Result of the study

Table 1: Proximate composition of bread and biscuit products

Parameters	Plantain bread (PB)	Plantain biscuit PB_1	Wheat bread WB	Wheat biscuitWB_1
Moisture %	5.00	5.13	3.45	3.95
Protein %	10.50	13.40	8.61	8.50
Fat %	9.20	8.80	12.00	8.30
Crude fibre %	19.20	19.32	12.77	10.40
Ash %	3.80	2.85	2.90	1.72
Carbohydrate %	22.30	21.20	20.03	2.20

Table 1 shows the proximate composition of bread and biscuits produced from unripe plantain composite flour and wheat flour. The proximate composition of the experimental bread and biscuit showed that the moisture content of the plantain biscuit had significant differences from that of biscuit and wheat. Plantain/wheat bread and plantain/wheat biscuit had less value; 3.00%, 3.13% as against 5.45% and 5.95% respectively. The protein content of the products in the four samples in the composite flour mixture had appreciable protein more than the wheat control 10.5% versus 8.61% and 13.46% versus 8.50% respectively maybe because of the quantity of eggs incorporated into the mixture. The fat content of wheat bread ranked higher 12.00%, followed by plantain bread 9.20%. The crude fiber of the combine composite flour mixtures ranked higher 19.20%, 19.32% versus 12.97% and 10.40% respectively.

The ash values of the composite products differed from that of the wheat 3.8% and 1.72% respectively. The slight increase in carbohydrate content of the product is not surprise 22.30%, 21.20% versus 20.30% and 20.20%.

Sensory evaluation

Table 2: Sensory Evaluation of the respondents that participated in the study n = 100

Organoleptic attributes	Plantain bread	Plantain biscuit	Wheat bread	Wheat biscuit
Colour	17.9 ± 5.10	14.4 ± 4.8	22.7 ± 7.5	14.4 ± 4.8
Texture	17.8 ± 5.6	18.6 ± 6.2	22.4 ± 7.5	20.3 ± 6.8
Flavour	23.2 ± 7.7	25.3 ± 8.4	20.4 ± 6.8	18.1 ± 6.0
General acceptability	20.1 ± 7.3	24.2 ± 8.1	19.4 ± 6.5	22.9 ± 7.6

PB = Plantain bread, PB_1 = Plantain Biscuit, WB = Wheat bread, WB_1 = Wheat Biscuit.

Table 2 shows that the wheat bread had more appreciable colour 22.7% while that of plantain and wheat biscuit, non had an edge over the other 14.4% versus 14.4%. The test of the products ranked 22.4%, 17.8%, 20.3% and 18.6% respectively. All the four samples had appreciable test acceptance.

The wheat biscuit had more acceptable flavour than all 25.3% while the plantain biscuit had lower ranking 18.1% respectively. The general acceptability of the test samples showed wheat biscuit 15.24%, followed by plantain biscuit 22.9%, wheat bread 21.9% and plantain bread 19.49% respectively.

Discussion

The low moisture content of the PWB and PWB_1 is an indication that the products will have a better shelf life than the WB and WB_1. This is in line with Onimawo and Akubor, (2012) which said that low moisture content of flour product increase it's shelf life. Akubor and Eze, (2012) also indicated that low moisture help in keeping with the shelf life value of the product. The higher ash is an indication that the minerals in the composite flour blends is better than that of wheat may be because of the processing effects of the wheat flour (Omole, Ajasin, Oluokuno and Obi, 2008, in Akubor and Ishiwu, 2003) had already identified the mineral concentration on natural less processed food crops. The higher protein indicated that apart from the iron content of plantain, if animal source is added it will help to increase protein content of the product. Therefore, the higher animal source (AS) in form of eggs added to the mixture increases the protein quality more than the WB and WB1. This is in line with (IFPRI and WFP, 2010) that (AS) increases the protein quality of plant based foods. Moreover, Akubor (2005) had also found out that nutritional enhancement is an advantage in the use of composite food products. The increase carbohydrate in PB and PB_1 shows that plantain is a starchy food. Horsfall 2010 had already discovered that plantain is consumed as an energy yielding food which is predominantly starchy yielding food. The sensory evaluation showed significant difference between the colour of the PB and WB $P<0.04$. The colour of PB_1 and WB_1 had no significant value, the lower texture ratings of the PB and WB_1 might be attributed to the greater water binding capacity of plantain in baked products IITA (2014). The flavour ratings of the responds in the PB and PB_1 are appreciable than the WB and WB_1. Egbebi and Bademosi (2011) had already found out that plantain composite flours has good functional properties that can enable it to be incorporated into baked products, especially bread, which has been identified as playing dual roles of serving as food as well as snacks. The general acceptability of the PB and PB1 might be because people are used to WB and WB_1. This agrees with Olagunju and Ifesan, 2013) who had identified that people like to eat or take new products, especially from plant foods when prepared different from the normal monotony forms which they were known and consumed before. Mature unripe composite plantain flour with wheat mixture has quality products in bakery implication as already said by Egbebi and Badmosi, (2011). They have also identified that mixture unripe plantain composite flour had higher nutrients therefore it is not surprising that the baked products had better qualities. (Oyebode and Olajide, 2013), had also identified that unripe plantain flour promote health and prevent or control diseases like diabetes. Plantain flour has a coarse nature that has fiber and that is why it has higher fiber and ash contents (Horsefall, 2010). Moreover, researchers had already identified plantain as natural source of dietary fiber (Ene-Obong, 2001). The fiber and ash content of the PB_1 and PB are also appreciable 19.20%, 19.32% for fiber and 3.80% and 2.85% for ash.

Conclusion

The study showed that plantain composite flour products had an appreciable shelf life which will be of great help in food security. The product if put into use, can increase intake of dietary fibre which has a low prevalence of chronic disease. The low moisture content ensures the availability of the product all the year round because it stays long after production. The good functional and flavor properties of the products is an indication that the composite flours may be used in producing snacks, especially bread, which serve dual purposes in most families as snacks and main meals. The study helps in the assurance of food security in the country because plantain is a yearly crop that is always available in all the producing areas of the country.

Recommendation

The following recommendations are put in place to help to ascertain more plantain and other food crops that yield much more and some of them are at the verge of extinction.

1. Divulge recipe so that only plantain composite flour can be used for baking.
2. Awareness can be created which will inform Industrialists about the functional quality.
3. More work had to be done on composite flours because of the present nutritional need: consumption of dietary fiber products.

References

Abloye, V.F, Ade-Omawaye, B.J.O, Babarinda, G.O; and Adesigbin, M.K.J (2011). Chemical, Physico-chemical and Sensory properties of Soy-plantain Flour. *African journal of food science Vol*. 5(4),pp.175-180.

Akosa Essoma, E.F; Megnanou, R.M; Kouassa, A.S, and Niamke, L.S, (2013). *Technical variation in the processing of dockounou, a Traditional Plantain Derivate Dish of Cote D'voire*.

Akubor, P.I., and Ishiwu, C,J. (2013), Chemical Composition, Physical and Sensory properties of Cakes supplemented with plantain peel flour. *International Journal of Agricultural Policy and Research* vol. 1 (4) pp.087-092.

Akubor, P.I, Eze, J.I. (2012) Quality evaluation and cake making potential of sun and oven dried carol fruit. *International Journal Brosci* 2(10).

Arisa, N.U; Adelekan, A.O; Aminat, O, Alamu, A.E; and Ogunfowora, E.J (2013). The Effect of Pretreatment of Plantain (*musa parasidiaca*) Flour on Pasting and sensory characteristic of Biscuit. *International Journal of Food Nutrition Science* vol.2 (1) 155N.2165-5308.

Association of Official Analytical Chemists (AOAC) (1990); Official Methods of analysis, 15th edn. Mingition Virginia, USA.

Association of Official Analytical Chemists (AOAC) (1995) *Official method of Analysis*, 15th edn. Mingition Virginia, USA.

Association of Official Analytical Chemists, (AOAC) (2010) *Official Methods of Analysis* 16th Edn; Washington DC USA.

Chinma, S.C, Igbabul, B.D; and Omotayo, 0.0 (2012). Quality characteristics of cookies prepared from unripe plantain and deface sesame flour blends. *International Journal of Food Technology* vol.7 (7) pp.398-408.

Edgebi, A.O and Bademosi, T.A. (2011). Chemical Composition of Ripe and Unripe and Banana and Plantain. *International Journal of Tropical Medicine and Public Health* vol (1) pp 120 – 150.

Ene – Obongo (2001) Eating Right. A Nutrition guide. The university of Calabar press; Calabar, Cross River State, Nigeria.

Food and Agricultural Organization (FAO) (2004) Statistics series No. 96, Food and Agricultural Organization of the United Nations, Rome.

Food and Agricultural Organization (FAO) (2009). Joint meeting of the fourth session of the sub-group on Tropical Fruits held on Rome, 9 – 11th December 2009.

Honfoe, F.G; Abdou, T; and Coulibaly (2011) *Banana and Plantain based Foods consumption by children and mothers in Cameroun and Southern Nigeria. African Journal of Nutritional Science* vol. 5(5) pp 287-291.

International Food Policy Research institution (IFPRI) and world food programme (WFP) 2010. *Can young children's Nutritional needs be met with a combination of fortified Blended foods and local foods linking research and action policy, sustainable options for ending poverty and hunger*: Geneva

International Institute of Tropical Agriculture (IITA) (2013), Banana and Plantain Research to nourish Africa, ner 45.

International Institution of Tropical Agriculture (IITA) (2006) *Statistic on Production, Growth and Consumption of Banana and Plantain Africa*.

International institution of Tropical Agriculture (IITA) (2013), *Banana and Plantain Research to nourish Africa*, Ner 45.

Ojure, M.A and Quadric, J.A (2012) *quality Education of Woodles produced from unripe plantain flour using xanthan* Gum. IJRRAS 13, (3). WWW. arpapress.com.

Olagunju A.I. and Ifesan, B.O.T(2013) Nutritional Composition and acceptability of cookies made from Wheat flour and germinated(Sesame Indium) flour Blends. *British Journal of Applied Science and Technology* 3(4).PP 702-713.

Onyechi, U.A and Nwachi, I.c.(2008) Organoleptic Attributes and Acceptability of Africa yam beans (*Sphenostylis stennocarpa*) bread. *Nigerian Journal of Nutritional sciences*. Vol. 29 (1) pp.256-359.

Oyebade, O. A; Adeyemo, T.A., Olajide, O. A (2013). Youth awareness and consumption of functional foods in Nigeria: the case Plantain flour Conference on International Research and Food Security, National Resource Organized by the University of Hofeinham Germany. September 19 – 19; 2013.

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Determination of Phytochemical and Shelf-Life Properties of *Brachystegia Eurycoma (Achi)* and *Mucuna Flagellipes (Ukpo)*

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Abstract

This study evaluated the phytochemical properties and keeping quality (shelf-life) of *Brachystegia eurycoma* (*achi*) and *Mucuna flagellipes* (*ukpo).* The samples were grown in Nigeria and bought as sold in Nsukka local market in Enugu State, Nigeria. The seeds were processed, milled into fine flours and stored in cellophane bags to avoid contamination. Qualitative analysis was used for analyzing the phytochemicals, while determination of shelf-life was after one month of storage based on physical changes, determination of percentage Total Dissolved Solute (%TDS), viscosity, spectophotometer and microbial growth on these flours. Processed *B. eurycoma* and *M. flagellipes* flours contained many phytochemical properties at varying levels: (alkaloids + & ++; tannins +++ & $^-$; glycosides + & + respectively). The result also revealed that the flours of *B. eurycoma and M. flagellipes* could be stored on the counter for an average of thirty nine days. After which, were changes in their absorbance levels, %TDS, viscosity and microbial growth. The study would be useful to food sellers and consumers of these products.

Key Words: *Brachystegia eurycoma, Mucuna flagellipes*, Shelf-life, Phytochemical, Properties, Evaluation.

Introduction

Phytochemicals are non-nutritive plant chemicals that have protective or disease preventive properties. Plants produce these chemicals to protect themselves but recent researches demonstrate that they can also protect humans against diseases (Tan, Konczak, Sze & Ramzan, 2010; Vasanthi & ShrishriMal, 2012). Many traditional plant based medicines are playing an important role in health care. Phytochemicals are natural bioactive compounds found in vegetables, fruits, medicinal plants, aromatic plants, leaves, flowers and roots which act as a defense system to combat against diseases (Vasanthi & ShrishriMal, 2012).

The phytochemicals from natural products cover a diverse range of chemical entities such as polyphenols, flavonoids, steroidal saponins, organosulphur compounds and vitamins. A number of bioactive compounds generally obtained from terrestrial plants such as isoflavones, diosgenin, resveratrol, quercetin, catechin, sulforaphane, tocotrienols and carotenoids are proven to reduce the risk of cardiovascular diseases and aid in cardio-protection which is the leading cause of death (Vasanthi & ShrishriMal, 2012). The cardio-protective effects of the various phytochemicals are perhaps due to their antioxidative, antihypercholesteroemic, antiangiogenic, anti-ischemic, inhibition of platelet aggregation and anti inflammatory activities that reduce the risk of cardiovascular disorders. The multi-faceted role of the phytochemicals is mediated by its structure-function relationship and can be considered as leads for cardiovascular drug design in future (Vasanthi & ShrishriMal, 2012).

There are more than a thousand known phytochemicals. Some of the well-known phytochemicals are lycopene in tomatoes, isoflavones in soy and flavonoids in fruits. There are many phytochemicals and each works differently (Singh, Sharma & Singh, 2014).

The easiest way to get more phytochemicals is to eat more fruits (blueberries, cranberries, cherries, and apple) and vegetables (cauliflower, cabbage, carrots, and broccoli). It is recommended that one takes daily at least 5 to 9 servings of fruits and vegetables (WHO, 2006). Fruits and vegetables are also rich in minerals, vitamins and fibre and low in saturated fat.

Phytochemicals are naturally present in many foods but it is expected that through bioengineering new plants will be developed, which will contain higher levels of the chemicals. This would make it easier to incorporate enough phytochemicals into foods (Tyagi, Ringh, Sharma, & Aggarwal, 2010).

Brachystegia eurycoma and *Mucuna flagellipes* flours possess phytochemicals and hydrocolloids properties hence they are used for thickening soups (Uzomah, & Odusanya, 2011) and are good source of soluble fibres, and have the ability to replace fat in processed food and so have been shown to be essential component in low fat and fat-free products (Aman, 2006). Hydrocolloids are mainly from plant materials. Two of such plants are *Brachystegia eurycoma* and *Detarium microcarpum* known locally in south-eastern part of Nigeria as "*Achi" and "Ofor*" respectively. *Brachystegia eurycoma* belongs to the family of Fabaceae, sub-family Caesalpinopdeae and Tribus detariae (USDA, 2006). It is one of the lesser-known legumes used in Nigerian communities as soup thickener. *Mucuna flagellipes* Bak, leguminosae, is one of the popular medicinal legumes in India and its constituent of more than 200 indigenous drug formulations. These legumes are great sources of nutrition because they carry the embryonic necessities for starting a new plant. They are high in protein, fibres and phytochemicals.

In Nigeria especially, adults suffer mostly from high cholesterol level in the bloods example hypercholesterolaemia which can lead to atherosclerosis (Nwaneli, 2010). These legumes (*Brachystegia eurycoma and Mucuna flagellipes*) can help to reduce cholesterol level and glucose response in diabetes (Obun, 2013).

The lesser-known legumes like *B. eurycoma* might be toxic and contain anti-nutrients unless they are properly processed prior to use to destroy these toxicants and antinutrients (Obun, 2013). There are some locally processed legumes sold in the Nigerian markets that may have exceeded their shelf-lives. This subsequently reduces their nutritive values and encouraged the growth of micro-organisms, which make them harmful when consumed by man (Okwu, Achar & Sharma, 2010). There is no clear evidence on how preservation of these legumes can improve their shelf-life. It was on this premise this study therefore determined to evaluate the phytochemical properties and shelflives of *Brachystegia eurycoma* and *Mucuna flagellipes.* Phytochemical analysis is a procedure used to determine the bioactive properties in *Brachystegia eurycoma and Mucuna flagellipes* flours. This was carried out by the method described by Higuchi & Brocham (1973).

Objectives of the study:

The major objective of the study is to evaluate the phytochemical properties and shelflives of *Brachystegia eurycoma* and *Mucuna flagellipes.* Specifically, the study determined:

1. the phytochemical properties of *Brachystegia eurycoma* and *Mucuna flagellipes*
2. the keeping qualities (shelflives) of *Brachystegia eurycoma* and *Mucuna flagellipes.*

Materials and Methods:

***Sample Collection and Pretreatment*:** The mature dry seeds *B. eurycoma* and *M. flagellipes* were bought as sold in Nsukka local market in Enugu state, Nigeria. The seeds were sorted to remove debris and unviable ones and stored in cellophane bags to avoid contamination.

***Pre-de-hulling Treatment*:** The traditional methods of processing as described by (Ene-Obong & Carnovalue, 1982) were adopted in the treatment of the seeds. The seeds (i.e. *Brachystegia eurycoma and Mucuna flagellipes)* were sorted and roasted for 10-15 minutes; then soaked immediately for one hour in cool clean water after which the cotyledons were soaked overnight (6hrs) in cool clean water. The water was drained off and the cotyledons were sundried, milled and sieved into fine powder.

Phytochemical determination (Qualitative Assay) Phytochemical analysis is a procedure used to determine the bioactive properties in *Brachystegia eurycoma and Mucuna flagellipes* flours. This was carried out by the method described by Higuchi & Brocham (1973) as follows:

- *Test for Saponins*: Froth test for saponins was used. One gram of the sample was weighted into a conical flask in which 10ml of sterile distilled water was added and boiled for 5minutes. The mixture was filtered and 2.5ml of the filtrates added to 10ml of sterile distilled water in a test tube. The test tube was stopped and shaken vigorously for about 30 seconds. It was then allowed to stand for half an hour. Honey comb froth indicates the presence of Saponin.
- *Test for Tannins*: Three grammes of the powered sample were boiled in 50ml distilled water for 3 minutes on a hot plate. The mixture was filtered and a portion of the filtrate diluted with sterile distilled water in a ratio of 1:4 and 3drops of 10% ferric chloride solution added. A blue or green colour indicated the presence of tannins.
- *Test for Glycosides*: A 25mls of dilute sulphuric acid was added to 5mls of extract (obtained as) in test for tannin in a test tube and boiled for 15 minutes, cooled and neutralized with 10% NaOH, then 5mls of fehling solution A and B added. A brick red precipitate of reducing sugar indicated the presence of glycosides.
- *Test for Alkaloids*: A 2.0ml extract (as obtained in test for Tannin) was measured in a test tube to which picric acid solution was added. The formation of orange colouration indicated the presence of alkaloids.
- *Test for Volatile Oils*: A 2.0mls of extract solution (obtained as in for tannin) was shaken with 0.1ml dilute sodium hydroxide and a small quantity of dilute HCl. A white precipitate would signify the presence of volatile oils.

- *Test for Flavonoids*: Ten millimeters of ethylacetate was added to about 0.2g of the extract and heated on a water bath for 3minutes. The mixture was cooled, and the filtrate used for the following test.
- *Ammonium Test*: About 4mls of filtrate was shaken with 1ml of dilute ammonia solution. The layers were allowed to separate and the yellow colour in the ammonical layers were allowed to separate and the yellow colour in the ammonical layer indicate the presence of flavonoids.
- *One percent Aluminium Chloride solution test*: Another 4ml portion of the filtrate was shaken with 1ml of 1% Aluminum chloride solution. The layers were allowed to separate. A yellow colour in the aluminum chloride layer indicates the presence of flavonoid.
- *Test for Steroids*: About 9mls of ethanol were added to 1g of the extract and the refluxing for a few minutes and filtered. The filtrate was concentrate to 2.5mls or boiling bath, about 5ml of hot water were added. The mixture was allowed to stand for 1hour and the waxy matter filtered off. The filtrate was extracted with 2.5ml of chloroform using separating funnel. To 0.5ml of the chloroform extracted in a test tube was carefully added 1ml of concentrated sulphuric acid to form a lower layer. A reddish brown interface shows the presence of steroids.
- *Test for Acidic Compounds*: About 0.1g of the extract was placed in a clear dry test tube and sufficient water added. This was warmed in a hot water bath and then cooled. A piece of water-wetted litmus paper was dipped into the filtrate and colour change on the litmus paper observed.

Determination of Shelf life properties

- Packaging, storage and preparation of samples:

The samples were packed in polythene packets weighing 10g each. All the packets were kept at room temperature and stored for a period of one month. Each of the stored samples was observed and examined daily for physical organoleptical changes, chemical changes and microbial growth examination, so appropriate data were collected on each sample for a period of one month.

- Shelf- life properties of *Brachystegia Eurycoma* (*achi*) and *Mucuna flagellipes* (*ukpo)* were determined using five parameters as follows:

i. Physical Properties/Changes (organoleptics):

Here, the determination of the flours' chemical and physical changes between 1-10 days was done. Food spoilage is a natural phenomenon. It occurs at various rates depending on the temperature, chemical reactions, kind of food, kind of microorganism present, moisture content, packaging materials used, food additives and method of preservation and so on. These can bring about undesirable changes in the colour, flavour, odour, taste and texture.

ii. Determination of percentage (%) Total Dissolved Solute (TDS):

The percentage total dissolved solute was calculated by dividing weight of the residue by weight of the filtrate and multiplied by hundred.

The weight of a container (crucible) was taken and recorded= w_1, the weight of crucible plus 5mls of the sample= w_2, $w_2 - w_1 = w_3$ (weight of filtrate).

Evaporated filtrate and weighed = w_4

$W_3 - W_4$ = weight of solid in the filtrate (residue)

$\%TDS = \frac{\text{weight of residue}}{\text{Weight of filtrate}} \times \frac{100}{1}$

iii. Determination of Viscosity: The viscosities of the samples were determined using a viscometer. The method of Sathe and Salunkhe (1981) was adopted in determining the viscosity of the flour samples. Sample dispersion 2.0% (w/v) was prepared with distilled water at room temperature (28±2°C) under continuous stirring by using British magnetic stirrer. The viscosity of the hydrated dispersion was measured at 28±2°C using the NDJ-8S digital viscosity. Measurements were on 2% (w/v) on dispersion of each flour sample of constant time intervals of 2 hours shear-rate (30/m).

iv. Spectrophotometer: One solution of each of the samples was scanned for the determination of the wavelength for which it was read at: for the *Ukpo* (*Mucuna flagellipes*) flour, the wavelength was 475nm, while that of *Brachystegia eurycoma* flour was 365nm.

Ten samples of different concentration of both preparations were made. The concentration was in specific combination ratio of the sample and distilled water, ranging for 0.1ml to 1ml, i.e. 0.1ml of water: 0.9ml of sample i.e. 1:9, 2:8, 3:7; 4:6, 5:5, 6:4, 7:3, 8:2, 9:1 and 1ml of sample.

v. Microscopic Examination: A drop of the 1% solution of the samples was dropped on a clean, grease-free microscope slide and covered with a cover-slip and viewed under microscope.

All phytochemical analysis and determination of shelf life of the processed seed flours were carried out in the Department of Pharmaceutical laboratory, University of Nigeria, Nsukka.

Results

The following findings were:

- Phytochemical Properties of *Brachystegia eurycoma* and *Mucuna flagellipes*

Table 1: Phytochemical properties of *Brachystegia eurycoma* and *Mucuna flagellipes*

Secondary Metabolite	Relative Aboundance	
	B. eurycoma	*M. flagellipes*
Alkaloids	+	++
Flavonoids	-	-
Glycosides	+	+
Steroids	+	-
Saponins	+	-
Tannins	+++	-
Terpenoids	+	-
Volatile Oils	++	++
Acidics compounds	+	++
Reducing sugar	++	+
Renins	+	+

Keys: - Absent; + Present in small quantity; ++ Moderately Present; +++ Abundantly present

Table 1 presents the phytochemical properties of *Brachystegia eurycoma* and *Mucuna flagellipes*. Alkaloids :- The level of alkaloids in *Brachystegia eurycoma* was lower in concentration (+) than the level of alkaloids in *Mucuna flagellipes* (++).

Glycosides: The level of glycosides in *Brachystegia eurycoma* was the same with *Mucuna flagellipes* though they had low concentration (+).

Steroids: The level of steroids in *Brachystegia eurycoma* was in low concentration (+) but it was absent in *Mucuna flagellipes*.

Saponins: The level of saponins in *Brachystegia eurycoma* was in low concentration (+) and absent in *Mucuna flagellipes*.

Volatile Oil: The level of volatile oil in *Brachystegia eurycoma* was the same with *Mucuna flagellipes* though it was in low concentration (+).

Acid compounds: The level of acid compounds in *Mucuna flagellipes* was moderate in concentration (++) and that of *Brachystegia eurycoma* was in low concentration (+).

Reducing sugar: The level of reducing sugar in *Brachystegia eurycoma* was moderate in concentration (++) and that of *Mucuna flagellipes* was in low concentration (+).

a. Determination of Shelf-life

a. Physical properties/changes were observed after one month of storage, between 1-10 days.

For *Brachystegia eurycoma* (1st to 10th Day):

1st day = clear particles settling at the base of the container.

2nd – 3rd day = Formation of supernant; floating particle.

4th – 5th = Suspension observed (reconstitutes after vigorous shaking)

6th – 7th day = Suspension reduced (shaking reduces suspension and reconstitutes poorly), slight change in smell; stated having odour, medium becomes cloudy.

8th - 10th day = A dense pungent odour perceived, suspended particle become cloudy, cloudy layer of precipitate disappeared.

For *Mucuna flagellipes* (1st to 10th Day):

1st day = Sample clear with particles sticking at the base and wall of container floating.

2nd – 3rd day = Particles and precipitate floating freely, forming of supernant; floating particle.

4th – 5th day = Clear separation of medium and precipitate.

6th – 7th day = Medium cloudy, particles settles fast after shaking.

8th – 10th day = Intense pungent odour perceived, suspended particle become cloudy and whitish particles developed.

b. Determination of Percentage (%) Total Dissolved Solute (TDS)

For the *Brachystegia eurycoma (Be)*(first day)

Weight of container = 60.81

Weight of container + 5mls of BE = 65.70

5mls of sample *Be* = 4.90

After heating; weight of container + Residue = 60.92

Residue = 0.11

%TDS = 2.24%

NB;- For the 2nd to 9th day, there was no significant changes.

For the *Mucuna flagellipes* (*Mf*) (first day)

Weight of container = 65.50

Weight of container + 5mls of *Mf* = 70.30

5mls of sample *Mf* = 4.80

After heating; weight of container + Residue = 66.38

Residue = 0.88

%TDS = 18.33%
NB; For the 2nd to 9th day, there were no significant changes.

On the *Brachystegia eurycoma (Be)* (tenth day)
Weight of container = 61.35
Weight of container + 5mls of *Be* = 72.70.
5mls of sample A = 11.35
%TDS = 2.0%.

On the *Mucuna flagellipes (Mf)*(tenth day)
Weight of container = 65.35
Weight of container + 5mls of *Mf* = 70.70
5mls of sample A = 5.35
After heating: weight of container + residue = 66.0
Residue = 0.65
%TDS = 12.14%

Using the %TDS: The TDS value for *Brachystegia eurycoma* on the 1st day (2.24%) and on the tenth day (2.0%), while that of *Mucuna flagellipes* on the 1st day (18.33%) and on tenth day (12.14%) showed that there was a significant decrease in its TDS for the later.

c. Determination of Viscosity
For *Brachystegia eurycoma*
1st day (when freshly prepared) = 1.06.
10th day (after it was stored) = 1.09.
For *Mucuna flagellipes*
1st day (freshly prepared) = 6.42.
10th day (after it was stored) = 9.0

d. Viscosity Determination: The result showed that the seed *Brachystegia eurycoma* had a viscosity of 1.06 and 1.09 on the 1st and 10th day respectively while that of *Mucuna flagellipes s* had a viscosity of 6.42 and 9.0 on the 1st and 10th day respectively. This showed that within these periods, the prepared samples from the seeds became thicker in its flow but it was more with *Mucuna flagellipes* predisposing them to microbial activity.

Spectrophotometer

Table 2: Absorbance of *Brachystegia eurycoma* and *Mucuna flagellipes* for different concentration at different days of analysis.

Concentration	Absorbance (1st day)		Absorbance (10th day)	
	BE	MF	BE	MF
0.1	0.222	0.063	0.796	0.38
0.2	0.393	0.066	1.124	0.522
0.3	0.501	0.075	1.552	0.727
0.4	0.679	0.085	1.57	0.808
0.5	0.772	0.098	1.738	0.941
0.6	0.804	0.133	1.882	1.176
0.7	0.946	0.139	2.165	1.255
0.8	1.098	0.157	2.194	1.310
0.9	1.232	0.166	2.221	1.466
1.0	1.456	0.176	2.450	1.648

BE- *Brachystegia eurycoma* MF- *Mucuna flagellipes*

Table 2 shows that there were changes in absorbance level for each of the samples (*Be* and *Mf*) between the 1st and the 10th day. The result showed that for seed flours, *B. eurycoma* and *M. flagellipes,* on the 1st day and the 10th day respectively, the rate of absorbance i.e. light intensity decreased based on their various concentrations.

Based on the results of the spectrophotometer analysis, it clearly stated that there was a significant degradation of seeds between the 1st day and the 10th day.

e. Microscopic examination:

For *Brachystegia eurycoma*

The first day: Nothing was seen indicating of micro-organism

The tenth day: plant – like growth was present.

For *Mucuna flagellipes*

The first day: no micro- organism present.

The tenth day: Microbial growth present.

Discussion

The result of the analysis showed that *Mucuna flagellipes* contained little more alkaloids than *Brachystegia eurycoma*. This study agreed with the work done by Uhegbu, Onuwuchekwa, Iweala, and Kanu (2009) who reported quantitatively the presence of alkaloid in dehulled seeds of *B. eurycoma* and D. *microcarpum respectively*. According to Papp *et al.* (2001), they reported that *Mucuna flagellipes* is more toxic and have more bitter taste than *Brachystegia eurycoma* because of the level of alkaloid it contained. The amazing effect of these alkaloids on humans has led to the development of powerful pain-killer medications, spiritual drugs, and serious addictions by people who are ignorant of the properties of these powerful chemicals (*Herbal powers.com, 2011*). *Mucuna flagellipes* is a reputed remedy of Ayurveda in nervous and sexual diseases. Traditionally, Mucuna *flagellipes* is commonly used as carminative, hypertensive and hypoglycemic agent. *Mucuna flagellipes* has been found to contain L-Dopa, 40 mg/g of the plant. The plant/seeds contain the bioactive alkaloids mucunine, mucunadine, mucuadinine, pruriendine and nicotine, besides B-sitosterol, glutathione, lecithin, oils, venolic and gallic acids. Studies in experimental model show L-Dopa also helps in the reduction of cholesterol and blood sugar levels.

From the result the tannin level of *Brachystegia eurycoma* was aboundantly present but absent in *Mucuna flagellipes*. The concentration may make the excessive consumption of *Brachystegia eurycoma* to inhibit the absorption of other minerals such as iron, which if prolonged may lead to anemia (Afsana, Shiga, Ishizuka & Hare, 2003); this agrees with Uhegbu *et al*. (2009) who reported that *B. eurycoma* contains tannins, with the undehulled seeds having a significantly ($P < 0.05$) higher content than the dehulled. The presence of tannin explains the darkening of soups within few days of its preparation, which mothers complain of. Tannin being complex phenolic polymer is capable of enzymatic oxidation, hence the pigmentation or browning of foods that contain tannin as seen in some yam species which browns when cut. Tannin has stringent properties, it hasten the healing of wounds and inflammation of mucous membranes (Agoha, 1979; Uhegbu *et al*., 2009).

Saponins were observed present in a small quantity in *B. eurycoma* which is in agreement with Uhegbu *et al.* (2009). However, there seems to be little or no danger with the concentrations of saponins present, as the saponins ingested are destroyed in the gastro intestinal tract, hence very little is absorbed into the system if any.

A moderate presence of reducing sugar was observed in the *B. eurycoma* than *M. flagellipes*, which could contribute to reducing **blood glucose** levels in diabetic patients. Medicinal plants are of great importance to the health of individual and communities (Edeoga, 2005), also stated that the medicinal value of some plants lies in some chemical active substances that produce a definite physiological action on the human body.

Mucuna flagellipes has more acidic compounds than *Brachystegia eurycoma* showing that as thickeners, *Brachystegia eurycoma* could be preferred in use for preparing soups for ulcer patients because of its lower acidic content.

The Shelf Life or Sell by date of a food product is defined as the time between the production and packaging of a product and the time at which it becomes unacceptable to the customer. Shelf Life is a combined measure of both food quality and food safety of a product and therefore the microbial testing during shelf life trials must be designed to demonstrate both of these measures (www.ils-limited.co.uk/ food-division/microbiology/shelf-life, 2014). The shelf-life determination revealed that for *Brachystegia eurycoma*, dense pungent odour was observed, a suspended particle became cloudy and the cloudy layer of precipitate disappeared while *Mucuna flagellipes,* between the 8th and 10th day of storage period, had intense pungent odour which was perceived, suspended particles became cloudy and whitish particles developed. Again there was microbial presence on the 10th day. This study agrees with work done by Okwu *et al.* (2010) in which samples of food thickeners obtained from Nigerian market revealed a high incidence and an alarming levels of aflatoxin; and that the presence of aflatoxin in food thickeners poses a potential health threat to consumers.

Conclusion

The study showed that the seeds, *Brachystegia eurycoma* and *Mucuna flagellipes* contain varying levels of phytochemicals. It also showed that the keeping quality of these flours do not exceed the average of one month unrefrigerated. The % Total dissolved Solute had significant changes at the 2nd to 9th day for *Brachystegia eurycoma* while *Mucuna flagellipes s* had no significant changes at those periods. Viscosity determination showed that the prepared samples became thicker in its flow but was more with *Mucuna flagellipes* predisposing them to microbial activities on the 1st and 10th day. Spectrophotometer showed changes in absorbance level for each sample between 1st and 10th day, while microscopic examination\ showed microbial growth for both flours on the 10th day.

Recommendations

1. More work should be done in prolonging the shelf-life of *Brachystegia eurycoma* and *Mucuna flagellipes* flours.
2. There is need for nutrition education to reach the rural and urban populace for promotion of the consumption of *Brachystegia eurycoma*.

References

Afsana, K., Shiga, K., Ishizuka, S. & Hara, H. (2003). Ingestion of an indigestible accharide, difructose anhydride III partially prevents the tannic acid-induced suppression of iron absorption in rats. *J. Nutr.,* 133(11): 3553-60.

Aghakar, S.P. (1991). Medicinal plants of Bombay Presiding. Scientific Publ. jodhpur. India. p 1-2.

Agoha, R.C. (1976). Medicinal Plants of Nigeria Vol. 3 Offset Drik Keriji Faculteitder Wiskunde pp.102 - 103.

Aman P. (2006). Cholesterol-lowering effects of barley dietary fibre in humans: scientific support for a generic health claim.

Scandinavian Journal of Food and Nutrition 2006; 50 (4): 173-176.

Edeoga, H.O.; Okwu, D.E. and Mbaebie, B.O. (2005). Phytochemical constituents of some Nigerian medicinal plants ... www.ajol.info › *Journal Home › Vol 4, No 7 (2005)*... constituents of some Nigerian medicinal plants.... *African Journal of Biotechnology* Vol. 4 (7), pp. 685-688, *2005* ...

Ene-Obong, H.N. and Carnovalue, E. (1982). Nigeria soup condiments: Traditional processing and potential as dietary fibre sources. Food Chem., 43: 29-34.

Herbal power (2011). Mucuna Pruriens, Dopamine, L-dopa, Growth Hormone, Macuna. *herbal-powers.com › SUPPLEMENT RESEARCH-*

Higuchi, T. and Brocham, H. (1973). Pharmaceutical analysis: In Phytochemical Litton Educational publication.

Nwaneli, C.U. (2010). Changing Trend in Coronary Heart Disease in Nigeria. *Afrimedic Journal 1(1):1-4*

Obun, C.O. (2013). Impact of Raw Tallow *Detarium microcarpum* (Guill and Sperr) Seed Meal on Performance and Blood Parameters in Broilers. *Iranian Journal of Applied Animal Sc Vol. 3 No.2 pp289-294.*

Okwu, G.I., Achar, P.N. & Sharma, S.K. (2010). Quantification of aflatoxin B_1 in ready – to-use food thickners in south-east geo-political zone in Nigeria. *African Journal of Microbiology Research Vol .4(16), 1788-1793,*

Papp, L.V., Holmgren, L. & Khanna, H. (2001). From selenium to selenoproteins, synthesis, identity and their role in human health. Antioxidants and redox signaling 9(7): 775-806.

Sathe, S.K. & Salunkhe, D.K. (1981). Funtional properties of the great northern beans (*Phseolus vulgaris*) (1) proein: Emulsion, foaming, viscosities and gelation properties. *J food Sci. 46:71- 81.*

Singh, B.M., Wadhwani, A.M. & Johri, B.M. (1996). Dictionary of economic plants in India.

Singh, R.L., Sharma, S. & Singh, P. (2014). Antioxidants: their health benefits and plant sources. In *Phytochemicals of neutraceuticals importance*. Prakash, D. & Sharma, G.(Eds.). CABI Amazon.com

Tan, A.C., Konczak, I., Sze, D.M. & Ramzan, I. (2010). Towards the discovery of novel phytochemicals for disease prevention from native Australian plants: an ethnobotanical approach. *Asia Pac J Clin Nutr. 19(3):330-4*

Tyagi, S., Ringh, G., Sharma, A. & Aggarwal, G. (2010). Phytochemicals as candidate therapeutics: an overview. *Int j Pharmaceutical Sc Review & Research. Vol. 3 Issue 1pp53-55.*

Uhegbu, F.O.; Onuwuchekwa, C.C.; Iweala, E.E.J. & Kanu, I..(2009). Effect of processing methods on nutritive and antinutritive properties of seeds of *Brachystegia eurycoma* and *Detarium microcarpum* from Nigeria. *Pakistan journal of nutrition, 8(4): 316-320.*

USDA (2006). National genetic resources program. Gerplasm resources information Network- (GRIN). Pp365-366.

Uzomah, A. 1. & Odusanya, O. S. (2011). Mucuna sloanei, Detarium microcarpum and Brachystegia eurycoma seeds: A preliminary study of their starch-hydrocolloids system. *African Journal of Food Science* Vol. 5(13), pp. 733-740

Vasanthi, H.R. & ShrishriMal N, D.D. (2012). Phytochemicals from plants to combact cardiovascular disease. *Curr Med Chem.19(14):2242-51.*

Verma, D.M., Balakrishnan, N.P. & Dixit, R.D. (1993). Flora of madhya pradesh. *Botany Survey of India.* Pp. 190-191.

World Health Organization (2006). Global strategy on diet, physical activity and health. Available from: http://apps.who. int/ gb/ebwha/pdf_files/WHA59-REC3/ WHA59_REC3-en.pdf.

www.ils-limited.co.uk/food-division/microbiology/shelf-life. *Food* Shelf Life *Testing - Microbiology* Determination - *ILS* ... cited 17 February, 2014.

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After - School care arrangements of School-age Children of female Bank workers in Uyo metropolis of Akwa Ibom State

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Abstract

This study investigated after-school care arrangements of school-age children (3-13years) of female bank workers in Uyo metropolis of Akwa Ibom State. Two objectives guided the study. The population comprised 500 female bank workers in the 48 commercial Banks in Uyo metropolis. Multi-stage sampling technique was used to select a sample size of 50 respondents. Instrument for data collection was a questionnaire. Data were analysed using percentages and means. Findings revealed care arrangements including among others, homecare by house help (6%); homecare by grandmother (8%); homecare by adult relative (18%); alone at home without adult care (42%). Also 88% of the children remained in these care arrangements for 2-4 hour. It is recommendation *inter alia* that the state government should establish free structured after-school care programmes to provide alternative after-school care for children of employed mothers especially in dual-income families.

Key Words: Female, Bankers, After - school, Care, Children, Behaviours

Introduction

Family life is changing, and one of the areas of change which makes care giving responsibilities very challenging is the increase in dual income families. Many women take up paid employment, others engage in various income generating activities to improve the economic conditions of their families, thus affecting their care giving responsibilities traditionally ascribed to women. The U.S Bureau of Census in 1999 revealed that over 70 percent of those with school age children are employed (Berk, 2001). School-age children are children between the ages of 6-12 in elementary school which coincides with the middle childhood period (Feldman, 2000); pre-school children (3-6years) in nursery schools also belong to this group.

Researchers observe that although women have become integrated into the labour market, they still remain the main caregivers, and division of housework between husbands and wives remain disproportionate with the wife doing a greater part of the work even when the husband is unemployed, thus making them experience a double workload (Lutz, 2002; Finch, 2003). As a result of economic involvement, women can no longer provide full time care hence the need for help or alternative care arrangements for their children.

Outside the usual maternity leave period, some female workers continue to work into late hours and sometimes including weekends, and the impact appears to be even more when mothers work long hours such as in the banks and oil companies. It has been revealed that when employment places heavy demands on the mother's schedule, children are at risk of ineffective parenting (Berk, 2001). According to Parke and Buriel (1998), the impact of a mothers work depends on many factors, such as the child's age, sex, temperament and personality, whether mother works full time or part time; why she is working; and how she feels about her work; whether she has a supportive mate, or none; the family socio economic status; and the kind of care the child receives before and/or after school.

Parents especially mothers are more likely to be in work and be more productive and happy if they are confident that their children are being looked after properly (Organisation for Economic Cooperation and Development (OECD), 2011). Berk (2001) confirms that high quality childcare is vital for parents' peace of mind and children's' wellbeing, even during middle childhood. Unfortunately, many female workers have no adequate care arrangements made for their children in their absence as a result of certain prevailing familial and social changes in the state, coupled with the scares and most often unaffordable day care services.

Hitherto, women relied on house helps for assistance in childcare and household work while pursuing economic gains, but in recent times, their services are very hard to obtain as a result of the present government's free and compulsory education. In traditional African society, where extended family and intergenerational support system was encouraged, grand mothers played a significant role in the care of their grand children, but modernisation is fast eroding this practice. Wehner and Abrahamson (2003) observe that the most common form of care by households is informal care and in the majority of cases, by grand mothers. Papalia, Olds, and Feldman (2004) asserted that some children of employed mothers are supervised after school by their fathers, grandparents, other relatives or baby sitters, while some go to structured programmes.

In some dual-income families, children look after themselves while parents are at work after school hours. Due in part to the high cost of child care, working mothers may be unable to afford sufficient child care for their children (Aizer, 2004). Berk (2001) observes that in the United States, 2.4 million children 5 to 13 year olds regularly look after themselves after school hours. Santrock (2006) asserts that this subset of children do not typically see their parents from the time they leave in the morning until 6 or 7pm. He explained that these children are sometimes called Latchkey children because they are given the key to their homes to school and then use it to let themselves into their home while their parents are still at work; that these children are largely unsupervised for two to four hours a day during each school week, and may be unsupervised for entire five days a week during summer months. The U.S. Census data indicate that self care arrangement has become more common for American families in recent decades (Johnson, 2005; Mahoney, Parente, and Zigler 2009).

Self-care can be a positive and rewarding experience for children who are prepared and ready for it, as it can help them develop independence, learn responsibility, and develop confidence in their own abilities; but if a child is not mature enough, self-care can be an anxiety-producing and dangerous situation (Ferrer and Fugate, 2013). Family and neighbourhood characteristics are also related to whether self care is problematic for children (Shumow, 2004).

In advanced countries, formal after-school care programmes are available, where children can participate and are cared for till parents close from work, but these are not available in Akwa Ibom state. When mothers lack adequate alternative care arrangements in their long absence, the children suffer various consequences. Moorehouse (1991 as cited in Berk, 2001) reveals that working long hours and spending little time with school - age children are associated with less favourable adjustment. Research suggests that in middle class families, sons of working mothers tend to do less well in school than sons of homemakers, whereas daughters do as well or better when mothers work and this may have to do with boys' greater need for supervision and guidance (Goldberg *et al*, 1996 as cited in Papalia *et al*., 2004).

Several studies reveal that children in informal care spend more time watching television or just hanging out, and some studies report that self care children suffer from low self esteem, anti-social behaviour, poor academic achievement and fearfulness (Padila and Landreth, 1989 as cited in Berk, 2001). Santrock (2005) confirms that many children spend more time in front of the television set than they do with their parents, and that many 9 year olds in the U.S watch television more than five hours a day.

Also Santrock (2006) observe that without limits and parental supervision, self-care children find their way into trouble more easily; possibly stealing, vandalizing or abusing a sibling; and 90% of the juvenile delinquents are Latchkey children. Moreover children who start self-care in the early elementary years are vulnerable to older self-care children in their neighbourhoods who may hurt or even sexually abuse them; they are more poorly adjusted in terms of peer relationships and school performance; and tend to be less socially skilled and to have behavioural problems (Bee and Boyd, 2007). However, many parents' particularly single mothers enlist the services of neighbours and other relatives to keep an eye on their self-care children (Brandon and Hoffreth, 2003), while others at times monitor their children through phones. The study therefore became necessary to investigate after- school child care arrangements by female bank workers, in view of the long hours involved in bank jobs, and the present government's free and compulsory education, which has caused a near total lack of house helps.

Purpose of the study

The main objective of the study therefore was to investigate the after- school care arrangements for school-age children (3-13years), of female bank workers in Uyo, metropolis of Akwa Ibom State, Nigeria. Specifically this study;

- identified who takes care of school-age children of female bank workers after school hours in Uyo, metropolis of Akwa Ibom State;
- determined length of time the children remain in such care arrangements before they are picked up by their parents;
- determined how satisfied female bank workers are with the care arrangements, and the quality of care

given to their children after school hours;
- determined the consequences suffered by children of female bank workers due to long parental absence after school hours.

Methodology

Research Design: The survey research design was adopted for the study.

Study Area: The study area was Uyo metropolis. Uyo metropolis is the capital city of Akwa Ibom state, one of the 36 states in Nigeria, with a population of 3.9million people, and a major oil producing state (Akwa Ibom State of Nigeria Information Guide). Majority of the banks are located in Uyo the state capital hence the choice of Uyo for the study.

Population for the Study: The population for the study comprised about 500 female bank workers in all the 48 commercial banks that operated in Uyo metropolis as at the time of the study.

Sample for the study: The sample size was fifty (50). Multi-stage sampling method was used for selecting the sample. Firstly, a simple random sampling technique was used to select 10 out of the 48 commercial banks. Thereafter, 5 female respondents with children of varying ages were purposively selected from each of the 10 commercial banks to give a total of fifty (50) representing 10% of the population.

Instrument for Data Collection: A structured questionnaire tagged 'After - School care arrangements of School-age Children questionnaire' (ASCASCQ) containing 3 sections and 16 items was developed and used for the data collection. Sections A and B consisted of multiple choice questions, while section C consisted of 4points scale questions with Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). The instrument was subjected to face validation by experts in the field. The reliability of the instrument was determined using Cronbach's Alpha procedure, and a reliability coefficient of 0.78 was obtained, which was high enough to guarantee the instrument fit for use in the study.

Data Collection Technique: Fifty copies of the questionnaire were purposively distributed to the fifty (50) respondents by hand in their offices. Only those who agreed to participate in the study were required to complete the questionnaire. The copies questionnaire were completed and returned on the spot with 100% retrieval rate.

Data Analysis Technique: Data collected were analysed using percentages and Mean scores. A Mean score of 2.00 and above was accepted, while a mean score of below 2.0 was rejected and considered as unacceptable response by the respondents.

Findings of the Study: The following findings were made:

(a) After- school care arrangements

Table 1: Percentage Distribution of Responses on after school care arrangements for school-age children of female bank workers in Uyo

S/N	Care Arrangements	Frequency	Percentage (%)
1.	Children stay with the house help	3	6
2.	Children stay with the grandmother in our home	4	8
3.	Children stay alone in the house	21	42

4.	Children are usually dropped at the home of grand parents or other relatives till parents close from work	2	4
5.	Children are left in the house with a grown up relative	9	18
6.	Children are left in the school till father closes from work or father picks the children to his office until his closing time	11	22
7.	Children are cared for in a structured after-school programme in a childcare setting	-	-
	Total	50	100

Table 1 shows the various care arrangements for school age children put in place by female bank workers in the study area. The distribution shows that 6% of the children stay with house helps, 8% stay in their respective homes with their grandmothers, 42% of the school-age children stay alone at home after school without adult supervision, 4% of the children are usually dropped at the home of grand parents or other relatives till parents close from work, 18% of the children are usually left in the house with grown up relatives, 22% of the children are left in the school till their fathers close from work or they are picked by their fathers to their offices until closing time, while none of the children was cared for in a structured after-school programme in a childcare setting.

(b) Length of time children remain in care arrangement

Table 2: Percentage Distribution of Responses on length of time the children remain in the care arrangements before either parent picks them

S/N	Length of time	Frequency	Percentage (%)
1.	One hour	6	12
2.	Two hours	9	18
3.	Three hours	22	44
4.	Four hours	13	26
5.	Five hours	-	-
	Total	50	100

Table 2 shows that 12% of the children stay in the different care arrangements for one hour before parents return home, 18% stay for two hours, 44% stay for three hours, while 26% of the school-age children stay for four hours before either parent returns home or picks them up.

(c) Level of satisfaction on the care arrangements and the quality of care given to children

Table 3: Percentage Distribution of Responses on their level of satisfaction on the care arrangements and the quality of care given to their children.

S/N	Levels of satisfaction	Frequency	Percentage (%)
1.	Very Satisfied	2	4
2.	Satisfied	9	18
3.	Not Satisfied	27	54
4.	Very dissatisfied	12	24
	Total	50	100

Table 3 shows that only 4% of female bank workers were very satisfied with their care arrangements and the quality of care offered to their children after school hours, 18% were satisfied, 54% were dissatisfied, while 24% reported that they were very dissatisfied with their care arrangements and the quality of care offered to their children after school hours.

(d) Consequences suffered by children

Table 4: Mean ratings of respondents on the consequences suffered by children of female bank workers due to long parental absence

S/N	Consequences suffered by children	Mean	Decision
1	Children in families of female bankers due to long parental absence, usually form anti-social behaviours such as stealing money to buy things, etc.	2.54	Agreed
2	Children of female bankers due to parents' long absence from home children usually engage in long hours of television viewing.	3.02	Agreed
3	Long absence of parents from home causes siblings' fighting.	2.58	Agreed
4	Sexual abuse of siblings is common due to long parental absence.	1.54	Disagreed
5	Children of female bankers have poor academic achievements because their mothers don't have time to help them with their home work.	1.94	Disagreed
6	Children from families of female bankers suffer from fearfulness due to long parental absence, e.g. fear of kidnappers and robbers.	2.74	Agreed
7	Lack of after school parental care exposes children to drug or alcohol abuse	1.46	Disagreed
8	Due to mothers' long absence from home, children of female bankers generally suffer from low self esteem	2.66	Agreed
9	When mothers close late from work, boys and girls are more responsible and independent than others	2.56	Agreed
10	Children in families where the mothers close late do not suffer detrimental effects because they are effectively monitored through phone.	1.82	Disagreed

Table 4 revealed that the respondents agreed to six out of the ten items listed as consequences suffered by children of female bankers with mean scores of 2.00 and above. The items agreed to were 1(2.54), 2(3.02), 3(2.58), 6(2.74), 8(2.66), 9(2.56); and the disagreed items were 4(1.54), 5(1.94), 7(1.46), 10(1.82).

Discussion of Findings

Results in Table 1 revealed the care arrangements by the female bank workers in the study to include in order of importance children staying alone and taking care of themselves in the house, children being left in the school till fathers close from work or fathers picking the children to their offices until their closing time, home care by grown up relative, home care by grand mother, home care by house help, leaving the children in the house of grandparents or others till parents' pick them up; while none of the respondents employed the services of structured after-school care programmes. These findings are in deviance to the revelation by Papalia et al. (2004) that some children of employed mothers are supervised after school by their fathers, grandparents, other relatives or baby sitters, while some go to structured programmes. The finding that 42% of the children stay alone in the house corroborates Berk (2001), that in the United States, 2.4 million children 5 to 13 year olds regularly look after themselves after school hours. Ekot (2012) in a study of Latchkey experience of school-age children in low income families in Akwa Ibom State also found that 48% of the children stay alone without adult supervision after school hours. The finding also reveals that none of the respondents employed the services of structured after-school care programmes since such services are not available in the state. The revelation that only 6% of the children are cared for by house helps explains the extent to which the introduction of free education is affecting care giving responsibilities of working mothers.

Result in Table 2 shows that over 88% of the school-age children remain in various care arrangements for two to five hours before either parent returns home or picks them up, this being in tandem with Santrock (2006), who maintained that some school-age that children are largely unsupervised for two to four hours a day during each school week, and may be unsupervised for entire five days a week during summer months.

Table 3 revealed that over 78% of the female bank workers were not satisfied with the care arrangements and the quality of care offered to their children after school hours before either parent returns home. This is in deviance to the views that parents especially mothers are more likely to be in work and be more productive and happy if they are confident that their children are being looked after properly (OECD, 2011), and that high quality childcare is vital for parents' peace of mind and children's' wellbeing (Berk 2001).

The finding revealed that the respondents agreed to six out of the ten listed as consequences suffered by children of female bank workers in with mean scores of 2.00 and above with long hours of television viewing having the highest rating as shown in Table 4. This is in agreement with Santrock (2005) who posited that many children spend more time in front of the television set than they do with their parents, and that many 9 year olds in the U.S watch television more than five hours a day. This does not seem to auger well for the school-age children as studies have shown that television can have negative influence by taking children away from home work, making them passive learners and providing them with violent models of aggression (Huesman *et al*., 2003 as cited in Santrock, 2005).

The fact that children from these families suffer from fearfulness, such as fear of kidnappers and robbers was also rated highly by the respondents. This is not surprising as cases of kidnapping are rampant in Akwa Ibom State. The respondents also agreed to the fact that due to mothers' long absence from home, children from these families generally suffer from low self esteem, and some forms of anti-social behaviours such as stealing money to buy things, while others are also involved in siblings' rivalry and fighting. These findings are in consonant with some studies which reported that self care children suffer from low self esteem, anti-social behaviour, and fearfulness (Padila & Landreth, 1989 as cited in Berk, 2001).

The respondents rejected the observation that children from of female bank workers have poor academic achievement because their mothers do not have time to help them in their home work. This implies that their work do not affect their children's academic attainment. This might be due to their financial capacity to pay for extra lessons for the children at home, or in their schools. This contrasts research finding by Padila and Landreth (1989) as cited in Berk (2001) who reported that self care children suffer from poor academic achievement. The respondents also disagreed to the observation that lack of after -school parental care exposes children to drug or alcohol abuse, and that sexual abuse of siblings is common in these families. This also disagrees with Santrock (2006) who observed that without limits and parental supervision, children find their way into trouble more easily; possibly stealing, vandalizing or abusing a sibling. This finding may however be due to the ages of children involved in the present study which includes younger children as young as three years of age.

Conclusion

One of the major challenges faced by women in paid employment who work late such as female bank workers is that of childcare. This study investigated the after-school care arrangements for school-age children (3-13years) adopted by female bank workers in Uyo metropolis, Akwa Ibom State. Majority of female bank workers in Uyo metropolis allow their children to stay alone at home after school despite the negative consequences suffered by some children because of lack of house helps occasioned by the free and compulsory education policy of the state government, and other career care givers; and the absence of structured after-school programmes for children in the area.

Recommendation: Based on the finding of the study, it is recommended that:

- Female bank workers should make mindful decisions to balance work and family, as the ability to balance work and family is a learning process; and they should be able to revise plans in inevitable circumstances.
- Employers of labour should adopt flexible work policies to help working women reconcile family and work life.
- Fathers should be more involved in child care giving and domestic work to reduce the double load of women in who are also paid employment.
- Young school leavers and unemployed graduates should venture into the care giving career to provide alternative to working mothers.
- The state government should consolidate its free and compulsory education policy with the establishment of free structured after-school care programmes to provide alternative after-school care for children of employed mothers especially in dual-income families.

References

Aizer, A. (2004). Home alone: supervision after school and child behaviour. *Journal of Public Economics*, 8, 1835– 1848

Bee, H., & Boyd, D. (2007). *The Developing Child* (11th ed.). Boston: Pearson Inc.

Berk, L. E. (2001). *Development through the Lifespan* (2nd ed.). Boston: Allyn and Bacon

Brandon, P., & Hoffreth, S. (2003). Determinants of out-of-school childcare Arrangements among children in single-mother and two-parent families, *Social Science Research,* 32, 129-147

Crockett, D. (2003). Critical issues children face in the 2000's. *School Psychology Quarterly*, 18, 446-454

Ekot, M. (2012). Latchkey Experiences of School-Age Children in Low-income Families in Akwa Ibom State, Nigeria. *Africa Development*, 37 (3), 153 – 169 © Council for the Development of Social Science Research in Africa, (ISSN 0850-3907)

Feldman, R. S. (2000). *Development across the Lifespan* (2nd ed.). New Jersey: Prentice-Hall.

Ferrer, M. & Fugate, A. M. (2013). Home Alone: Children in Self-Care. Retrieved from http://edis.ifas.ufl.edu/pdffiles/FY/FY64700.pdf on 22nd March, 2014

Finch, N. (2003). Family Policies in the UK, National report made for the research project Welfare policies and employment in the context of family change, Retrieved from www.york.ac.uk/inst/spru/research/summs/welempfc.htm on 13th July, 2011

Johnson, J.O. (2005). Who's minding the kids? Child care arrangements: winter 2002. (Report no. P70-101). Washington, DC: U.S. Department of Commerce, Household Economic Studies, Survey of Income and Program Participation 2002, U.S. Census Bureau.

Lutz, H. (2002). At Your Service Madam! The Globalisation of Domestic Service, *Feminist Review*, 70/2002

Mahoney, J. L., Parente, M. E. & Zigler, E. F (2009). After school Programs in America: Origins, Growth, Popularity, and Politics, *Journal of Youth Development*, 4(3),

Organisation for Economic Cooperation and Development (OECD) (2011). Doing Better for Families, OECD Publishing. Retrieved from http//dx.doi.org/10:1787/978924098732.en on 27th July, 2011

Papalia, D., Olds, S., & Feldman, R. (2004). *A child's World: Infancy through Adolescents* (9th ed.). Boston: McGraw Hill.

Parke, R.D., & Buriel, R. (1998). Socialization in the family: Ethnic and ecological Perspectives. In W. Damond (Ed) *Handbook of child Psychology*, 3, (5th ed.). (pp. 463-532), New York: Wiley

Santrock, J.W. (2005). *Children* (8th ed.). Boston: McGraw Hill.

Santrock, J.W. (2006). *Lifespan Development* (10th ed.). New York: McGraw Hill

Shumow, L. (2014). Latchkey Children, Retrieved from http://education.stateuniversity.com/pages/2158/Latchkey-Children.html. on 23th March, 2014

Wehner, C., & Abrhamson, P. (2003). Family and work in Europe? ESPAnet conference, Changing European Societies- the Role for social policy, First draft: 13- 15

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Abuse of Mobile Phones among Students: A Case Study of Adeyemi College of Education, Ondo

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Abstract

This study determined ways Students in Adeyemi College of Education, Ondo State abuse mobile phones. It adopted a survey design. Five hundred degree students were selected randomly for the study. Two research questions guided the study. Questionnaire was used for data collection. The data were analysed using mean. The findings revealed six ways students abuse mobile phones which include, using them as a medium for examination malpractice, among others. It was recommended that efforts should be made by the Nigeria Communication Commission to stop extra-cool. School authorities should punish severely students caught practicing examination theft through the use of mobile phones.

Keywords: Abuse, Mobile Phones, Student, Extra Cool, Communication

Introduction

Communication has been of great importance in human society. According to Roeisch (1995) communication in its many forms is shaping economy and society, making the world a smaller place. It puts individuals in touch with each other and events around the globe in real time. Global System for Mobile Telephone (GSM) was introduced to Nigeria 1999, with the arrival of Nigeria Telecommunications (Plc). Thus, on 7th August, 2001, Economy Network (ECONET) wireless (now *Airtel* Mobile) commenced operations of Global System for Mobile Telephone (GSM) in Nigeria followed by *Mobile Telephone Network* (MTN), *Nigeria Telecommunication* (Nitel), *Globalcom* and *Etisalat*.

Mobile phones have become like the air people breathe, it keeps them connected and it has even grown to the extent that parents purchase mobile phones for their children in nursery and primary schools. It is important to note, however, that people's perspective towards a particular thing determines whether it is being abused or applied judiciously (Awulor, 2014). The adoption of the mobile phones by young people has been a global phenomenon in recent years. It is now an integral part of young peoples' daily lives. For students in higher institutions of learning, it is the most popular form of electronic communication. In fact, the mobile phone has turned from a technological tool to a social tool (Mariadhas, 2014).

According to Nigerian Communications Commission (NCC), there were over 250 million GSM subscribers in Nigeria as at 30th September, 2008 (Science Teacher

Association of Nigeria, STAN, 2008). Since the emergence of the service providers there has always been one form of mobile advertisement in form of promotions for mobile phone users. There are innumerable advertisements of mobile phone service providers which give one options to sign up for one package or the other, among which is "*extra-cool connection*". Baltzer (1995) noted that the network behind the GSM system seen by the customer is large and complicated in order to provide all the services which are required. Presently, GSM is being abused or misused by various anti-social acts. Some individuals refer to the abuse as 'GSM Wahala' which has posed a lot of inconvenience on users (Awulor, 2014).

The "*extra-cool connection*" involves mid-night GSM calls at little or no charges, the caller must however have some stipulated amount of air time in his/her phone. By this, the mobile phone service providers increase their income generation strategies, while luring youths including students into such frivolous pastimes such as talking the night away with friends and families. Unfortunately, most students fall victim of this with the aim of reducing the cost on mobile phone recharge cards not knowing that they are making "*extra-cool*" at the expense of their own future and academic performance. If hours spent on using night packages "*extra-cool*" are utilized for achieving and promoting higher education, Nigeria will be stronger, better, enlightened, educated and progressive. Nearly all the service providers now offer "*extra-cool*" for service users, while noting that *extra cool* is for the young at heart. Many students in tertiary institutions have been rubbed of their sleep that is supposed to be beneficial to their body system through making cheap calls at midnight. Most students do not even know the implications of this "*extra-cool*" connection on their health. Those who ignore the consequences find it difficult to carry out their academic activities in the day time (STAN, 2008). There are various forms of abuse on the use of GSM.

The college students use cell phones in class, and it adversely affects their concentration and brings distractions of all kinds. Even though the majority of college students do not own a Smartphone, those who do are much more active using their phones in class and also make others to get one and use them (Mariadhas, 2014). In a study on cellular telephone obsession, Wikle (2001) noted that people who engaged in long night calls usually have less sleeping time compared to the core-sleeping time. It is important to differentiate between moderate sleep loss (5 to 6 hours) and severe sleep loss (4 or less hours). The less hour of sleep produces more significant effects on daytime performance. Chronic sleep loss can reduce the capacity of every young adult to perform basic metabolic functions. Cutting back from the standard eight hours of sleep to four hours or less each night produces striking changes in glucose tolerance and endocrine function changes that resemble the effects of advanced age or the early stage of diabetes (Mcllwraith, Jaconvitz, Kubey, and Alexander, 1999).

Lack of sleep also contributes to lack of growth on an individual. Some hormones such as growth hormones are secreted preferentially during sleep; a student that does not have enough sleep due to extra-cool is likely to be retarded in growth. Long calls especially at night are linked to severe headache, heating effects and fatigue (Ling, and Yttri, 2002; Park, 2005). In a situation whereby a student who is supposed to sleep for eight hours in order to be active for the next day's activities decides to make midnight calls, his/her studies suffers. Ling, and Yttri, (2002); Park, (2005) reported that the longer people used mobile phones the more likely they reported symptoms such as hot ears, burning skins, headaches and fatigue. There have also been various studies (Crabtree, and Roberts, 2003; Haste, 2005; Campbell, 2006) into the connection between making long conversation at midnight on mobile phones which affects the sleeping time of students and memory loss.

Following the potential health risks of all night calls and the related challenges on academic activities of students, it becomes necessary to evolve ways of helping them minimize or avert such practices. This necessitates the study of the students' use of mobile phones. While students in all tertiary institutions may be into night call mobile phone abuse, those in Adeyemi College of Education deserve special attention because of the perculiar situation of the institution and the popularity of the '*extra-cool*' among the students. Besides, most of the students lack the finances for expensive day calls and enjoy the opportunity of free calls and which is often available at midnight when they ought to be sleeping.

Purpose of the Study

The general purpose of the study was to examine the abuse of the use of mobile phones among students in Adeyemi College of Education, Ondo. Specifically, the study determined:

i) the various ways students abuse the use of mobile phone.

ii) consequences of the use of "*extra-cool*" connection on students in Ondo State.

Research Questions

The study answered the following research questions:

1) In what ways is mobile phone abused among students in Adeyemi College of Education?
2) What are the consequences of "*extra-cool*" connection on the students of Adeyemi College of Education, Ondo?

Methodology

***Area of the Study*:** The area of the study was Adeyemi College of Education, Ondo, Ondo State. The school comprises of both NCE and first Degree students. The school is categorized into sub-schools for easy classification of students. The sub-schools are: School of languages, school of Arts and Social Sciences, School of Vocational and Technical Education, School of Sciences and School of Education.

***Design of the Study*:** The design that was used for this study was descriptive survey. It focused on the opinions of students.

***Population for the Study*:** The population of Adeyemi College of Education, Ondo comprised of 15,183 students. The target population for this study consisted of first, second and third year B.Ed (degree) students. There are 4994 of such students which are both male and female students. The students age range between 17 and 25 years who reside both on campus and off campus.

***Sample for the Study*:** The sample size for this study were 500 students who are only first, second and third year degree students in their respective schools through random sampling. To obtain the sample, 120 students were selected from school of science, in school of languages one hundred and ten (100), school of vocational and technical education one hundred (100), school of Education eighty (80) while in school of arts and social science one hundred (100) students were randomly selected.

***Instrument for Data Collection*:** Questionnaire was used for data collection. The instrument was self-structure and was developed based on the research questions of the study. The questionnaire was divided into three sections. Section A and B consisted of personal data of respondents, Section C consisted of fixed response items on the abuse of mobile phones among Nigerian students. The questionnaire was constructed by the researcher and given to two experts in the department of Home Economics for face and content validation. To determine the degree of precision and consistency the instrument measures Test-re-test method was employed. Twenty (20) copies of the questionnaire were distributed to students outside the sample size and later redistributed to the same set of students after a period of two weeks. The responses to the first and second set of questionnaire were correlated using Pearson Product Moment Correlation and a positive correlation with a coefficient of 0.79 was obtained.

***Data Collection and Analysis Techniques*:** Five hundred and ten (510) copies of questionnaire were administered by hand to the respondents. The 500 copies of questionnaire were completed and retrieved. Mean was used for data analysis.

Findings of the Study

The following findings were made.

A. Six ways mobile phone is abused by students. Data are summarised in Table 1

Table 1: Mean Rating on the ways by which mobile phone is abused.

S/N	Ways mobile phone is abused by students	$\bar{x}$	Rem.
1.	Students use mobile phones as a tool for examination malpractices.	3.51	A
2.	Students spend more time on their phones (playing games, chatting, browsing etc) compared to the time spent in reading and attending lectures.	3.35	A
3.	Some students buy mobile phones just to show off and not primarily to make and receive calls.	3.34	A
4.	Mobile phone has been used in the past years as a medium for duping people.	3.38	A
5.	Students harass their lecturers/teachers through the use of mobile phone.	3.12	A
6.	Midnight calls have been used as a medium to meet and date new people.	3.56	A

N = 500

Table 1 shows the mean responses of all respondents to all the items which ranged from 3.12 to 3.81 were greater than the cut off point (2.5). It reveals that the respondents agreed to all the items. Hence, in answering the research question, the following are the ways by which Nigerian students abuse mobile phones: they use it (mobile phone) as a tool for examination malpractice, they spend more time playing games, chatting, browsing etc compared to the time devoted to their study, they use mobile phones to show off (bestow status), they use it as a medium to dupe people and as medium to threaten and harass lecturers/teachers.

B. Consequences behind making midnight calls

Table 2: Mean Rating on the consequences behind making Midnight Calls.

S/N	Consequences of Making Midnight Calls	$\bar{x}$	Rem.
1.	People who make extra cool do not usually wake up early for lectures.	3.63	A
2.	Extra cool connection can be attributed to headache because of inadequate sleep.	3.24	A
3.	Students who makes extra cool sometimes miss lectures.	2.86	A
4.	Some students have missed a test/examination because they slept off after making extra cool.	2.97	A
5.	Students who makes extra cool are usually tired in the morning.	2.83	A
6.	Students who make extra cool are likely to doze off during lectures.	2.85	A
7.	Students who make extra cool usually have problems relating to sleep loss.	2.98	A

N = 500

Table 2 shows the mean responses of all respondents which ranged from 2.83 to 3.3 were greater than the cut-off point (2.5). This implies that the respondents agreed to all the times. Hence, people who make extra cool do not usually wake up early for lecturers, extra cool connection can be attributed to headache because of inadequate sleep, students who makes extra cool sometimes miss lectures, some students have missed a test/examination because they slept off after making extra cool, students who makes extra cool are usually tired in the morning, students who makes extra cool are likely to doze off during lectures and students who make extra cool usually have problems relating to sleep loss.

Discussion of Findings

Result of the findings presented on table 1, revealed that ways by which mobile phones are abused by Nigerian students are; they use it (mobile phone) as a tool for examination malpractice, they spend more time playing games, chatting, browsing etc compared to the time devoted to their study, they use mobile phones to show off (bestow status), they use it as a medium to dupe people and as medium to threaten and harass lecturers/teachers. The finding is in line with that of Crabtree, and Roberts, (2003); Ling (2004) who noted that the advent of cell phone has facilitated access to the outside world and further enhanced fraudulent activities over the internet. He added that surprisingly, making long conversations on mobile phones is nothing new among our youths of today's world

Since the introduction of mobile phones in Nigeria late 1998, it has been a fast and reliable way of communicating. Despite the manner at which it have been meeting the communication needs of the country, its use have been abused in so many ways. Following the common saying that "too much of anything is bad", mobile phone services have been over used by Nigerian youths, it is now used as a medium to dupe people, harass lecturers, practice examination theft and so on. The onset of extra-cool made things even worse, attention was almost totally shifted from making calls during the day to keeping call appointments late in the night. Some students who found reading more pleasant at midnight while everything is cool and calm now find it difficult to read due to mid night call (extra-cool).

Table 2 presents the implication of extra-cool connection on students, the table revealed that: people who make extra cool do not usually wake up early for lecturers, extra cool connection can be attributed to headache because of inadequate sleep, students who makes extra cool sometimes miss lectures, some students have missed a test/examination because they slept off after making extra cool, students who makes extra cool are usually tired in the morning, students who makes extra cool are likely to doze off during lectures and students who make extra cool usually have problems relating to sleep loss. Haste, 2005; Park (2005); Campbell, 2006 are of the opinion that long cell phone calls has a lot of negative impact on the health of an individual, especially on the amount of sleep. Lack of sleep alters hormones metabolism, stimulates effects of ageing and other related illnesses. In this aspect, mobile phone as done more harm than good. The major effect of making extra-cool is centred on sleep, sleep is needed for the body to function well. When the sleep observed by any individual is not adequate, it have significant effect on every organ of the body. Students who make extra-cool have little or no time to sleep.

Conclusion

Nigerian students have abused the use of mobile phones in so many ways. They have used it as a medium to dupe people, distract their attention from their studies, harass lecturers/teachers to mention but a few. The implication of extra-cool connection (an abuse of mobile phone) is numerous few of these are: attending lectures late, headache as a result of inadequate sleep, missing a lecture, test or examination, feeling tired early in the morning, dozing off in class during lectures and having problems relating to sleep loss. Extra-cool is a cankerworm that is eating deep into the fabrics of the time of Nigerian students, it has derailed many students from their primary focus and has lasting effects on their health, sleep and academic performance.

Recommendations

Based on the result of the findings, the following were recommended;

- Students should be counselled and made to see the hazard caused by extra-cool to the health and academic performance
- Better cheap call packages should be provided by network providers as against all night (midnight) free calls
- Examination malpractices made through the use of mobile phones should be punished severely to discourage others from indulging in it
- Extra-cool connection by different network providers should be stopped by the Nigerian Communication Commission.

References

Awulor, I. (2014). Uses, Abuse of Mobile Phones. *The Pointer*. http://thepointernewson line.com/?p=6892 retrieved 03/03/2014.

Baltzer, J.A. (1995). *America Calling: A Social History of the Telephone to 1940.* Berkeley: University of California Press.

Campbell, R. (2006). Teenage Girls and Cellular Phones: Discourses of Independence, Safety and Rebellion. *Journal of Youth Studies*, 9, 195-212.

Crabtree, N. & Roberts. (2003). Mobile U.K: Mobile Phones and Everyday Life. *Research Report.*

Haste, H. (2005). Joined-up Texting: The Role of Mobile Phone Use. *Occupational Medicine*, 48, 357-360.

Ling, R & Yttri, B. (2002). “Hyper-coordination via Phones in Norway” in Kats, J.E. & Aakhus, M.A. (eds). *Perceptual Contact: Mobile Communication, Private Talk, Public* *performance.* United Kingdom: Cambridge University Press pp. 139-169.

Ling, R.S. (2004). *Mobile Connection: The Cell Phone's Impact on Society.* San Francisco: Morgan Kaufmann.

Mariadhas, J. (2014). Mobile Phone Mania and College Life: Impact of Mobile Phones on our Youth. *The Morung Express*. http://www.morungexpress.com/index.ph p ?news=104425 retrieved 03/03/2014.

Mcllwraith, R., Jaconvitz, R.S., Kubey, R. & Alexander, A. (1991). Television Addiction: Theories and Data behind the Ubiquitous Metaphor. *America Behavioural Scientist*, 35(2), pp. 104-121.

Park, W.K. (2005). *Mobile Phone Addiction,* In Rich, L. & Pedersen P.E. (eds). Mobile Communications: Re Massachusetts and London, Springer, London, United Kingdom.

Roelsch, S.C. (1995). *Communication of Innovations.* New York: The free press.

Science Teachers Association of Nigeria (2008). Special Focus on Health Education. *STAN Bulletin*. Published by the National Secretariat Science Teachers Association of Nigeria 25(2).

Wikle, T.A. (2001). America's Cellular Telephone Obsession: New Geographies of Personal Communication. *Journal of American and Comparative Cultures*, 24 (½) pp. 123-128.

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Gerontological Issues and Challenges of the Retirees: Implications for Ameliorating Strategies

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Abstract

Living a healthy life and maintaining functional health after retirement is an ideal plan of all workers in different sectors. Ageing as an aspect of gerontology, is characterized by multiple challenges that affect functional health and wellness in later life. This paper presented the categories of ageing, issues relating to gerontology in ageing population, and the challenges of the retirees. It also discusses various efforts by individuals as well as groups in ameliorating these challenges. The implications for ameliorating strategies are also discussed. It is recommended, among others, that pre-retirement programmes should be organized in different sectors in order to expose and prepare employees on the issues and anticipated challenges to be faced after retirement.

Keywords: Gerontology, Challenges, Ageing, Retirees, Health

Introduction

Over the next forty years the number of people aged 60 years and above in the world is set to grow by one and a quarter billion, with a particular rapid increase in the number of oldest-old citizens (Peter, 2010). This increment could be attributed to advancement in technological development and improved medical services leading to increased life expectancy and decline in mortality rate (Wallace & Kohatsu, 2000; Hayward & Zhang, 2001). The ageing population includes individuals within the chronological ages of 65 years and above who may have successfully retired from active service (Manuel, James & Neil, 2013). These individuals are vulnerable to multiple ageing challenges and health complications that affect their lives negatively in later life. Gerontology paves ways for better understanding of these challenges in anticipation and enables the individuals to adjust to them satisfactorily.

Gerontology is a large and diverse field that studies ageing. Ageing is a physiological process characterized by gathering harmful substances into the body that cause cells and tissues to die which can lead to the person's fragility and vulnerability to different illnesses (Peter, 2010). Gerontology is not to be confused with geriatrics, which focuses on the care and prevention of age-related diseases.

Gerontology studies the process of ageing and problems associated with the chronological, biological, social and psychological aspects of ageing (Irish Centre for Social Gerontology (ICSG), 2013). Ageing is viewed in gerontology as more than merely the numerical increase of a person's age.

Thus, this paper focused on the:

- Four categories of ageing
- Issues relating to gerontology in ageing population
- Challenges of the retirees
- Various efforts in supporting the aged
- Implications for ameliorating strategies

Four categories of ageing: chronological, social, biological, and psychological ageing

- ***Chronological Ageing***: Chronological ageing is based on a person's age counted from birth. Therefore, a person celebrating his or her 75th birthday has a chronological age of 75 years. Based on the chronological ageing descriptions, the elderly can be grouped into three major age cohorts: the young-old (65-74 years old), the old-old (75-84 years old), and the oldest-old (85+ years old) (Hayward & Zhang, 2010). However, chronological ageing helps to categorize and study trends in different age cohorts in ageing population.
- ***Social Ageing***: The social aspect of gerontology looks at the relationship between the society and the ageing population (Peter, 2010). Social gerontologists study the social consequences of the ageing process, such as ageism. The major interest in social ageing is on how an older person adapts to losing or gaining his or her social role (Ene, 2004) after retirement. The implication of this adaptation is that those who do not adapt well to their new roles may develop depression or other health-related problems.
- ***Biological Ageing***: In studying the normal biological decline of the body that comes with ageing, we can better understand how and why our bodies become more susceptible to certain diseases as we age. Biological ageing dwells more on the theories of ageing such as breakdown theories, substance theories and hormonal theories (Ene, 2004). These theories define the gradual decline in the normal functioning of human system due to ageing. For instance, the sweat glands and sebaceous glands which gradually decline with age making the older people to sweat less and have less oily skin compared to when they were teens.
- ***Psychological ageing***: The psychological ageing results when an elderly person is depressed or suddenly loses a great deal of memory. When these occur, the gerontologists try to find reasons and answers to the causes and symptoms. Psychological gerontologists concentrate on the older peoples' interactions with their environment, cognitive functioning and age-related mental diseases such as dementia (ICSG, 2013).

In an attempt to ameliorate the challenges of ageing population particularly in rural areas, the Irish Centre for Social Gerontology came up with seven point strategic goals for rural ageing observatory. Rural ageing is a concept used to describe the population of the elderly living in rural areas (Howarth, 2013). The seven point strategic goals are listed below:

- To provide knowledge, information and analysis of rural ageing that leads to improved quality of life for rural dwellers

- To consult older people directly and their stakeholders organizations on relevant issues through participatory research methodologies
- To establish new values for transformative social ageing in rural communities
- To establish the key characteristics of inclusion and exclusion experienced by older people in rural areas.
- To determine the influence of life-course factors and/ or the impact of age on advantage and disadvantage in later life.
- To identify the nature, form and structure of capabilities and resilience within rural older people
- To influence local and national government on policy matters in relation to rural ageing.

Issues relating to gerontology in ageing population

There are many issues relating to gerontology in ageing populations. Some of these issues are summarized under the following sub-headings:

***Cost of Health, Medical and Social Services in Ageing Population*:** The increased number of persons aged 65 years has potentially led to increased cost of health, medical and social services in ageing population globally. For instance, the cost of health and medical services-care per capita for persons aged 65 years and above in developed countries is three to five times greater than the cost for persons below 65 years (Federal Interagency Forum on Ageing-Related Statistics, 2008). While in developing countries such as Nigeria, the cost of services for persons above 65 years is five to ten times greater than the cost for persons below 65 years (Anderson & Hussey, 2011). The issue of high cost of services has affected the zeal in seeking physician's attention or medical check-up by the elderly particularly in Nigeria society. Most elderly has preferred to remain in their sick bed at home in waiting for death as alternative to unaffordable cost of services. Such decision has placed a lot of doubts on one's wish and plan to live longer after withdrawal from active service. The high cost of services has remained an unresolved issue in ageing population globally.

***Rapid Increase in Ageing Population*:** Literature evidence has shown that the ageing population is experiencing rapid increase worldwide. For instance, in 2000, the worldwide population of persons aged 65 years was an estimated 420 million, a 9.5 million increase from 1999 (Kinsella & Velkoff, 2001). Between 2000--2030, the worldwide population of people aged 65 years plus is projected to increase by approximately 550 million to 973 million, increasing from 6.9% to 12.0% worldwide, from 15.5% to 24.3% in Europe, from 12.6% to 20.3% in North America, from 6.0% to 12.0% in Asia, and from 5.5% to 11.6% in Latin America and the Caribbean (World Health Organization, 2002). The largest increase in absolute numbers of older persons will occur in developing countries such as Nigeria. Between 2000--2030, the number of persons in developing countries aged 65 years and above is projected to almost triple, from approximately 249 million in 2000 to an estimated 690 million in 2030 (WHO). Data from National Union of Pensioners, Enugu State Council (2014) showed a slight increase on the number of registered pensioners in Enugu state from 8421 in 2013 to 9515 in 2014. However, this increment has remained a global issue in relation to population ageing.

***Existence of Multiple Chronic Disease Conditions in Ageing Population*:** The ageing population is usually characterized by existence of multiple chronic disease conditions including kyphosis (Kado, Huang and Karlamangla, 2013). The Central Statistics Office (2011) found that more than 80% of the elderly have at least one chronic health condition. Connolly, Finn, and O'Shea (2012a) found 40% of the elderly to have chronic disease conditions that limits their Activity of Daily Living (ADL), such as feeding, walking, sweeping the house, and grooming. Elderly persons limited in performing ADLs are forced to rely on caretakers who are usually family members. As a consequence, the caretakers are greatly affected socially, economically, physically, and psychologically by an aged dependant. These physical health limitations according to Marlsand, et al., (2010) accounts for a large proportion of disability, death and medical costs in ageing population.

Challenges of retirees

The elderly are usually faced with multiple challenges that affect their functional health and wellness in later life. Such challenges could limit their activities of daily living thereby subjecting them to permanent dependency. Some of the commonest challenges of the retirees particularly in Nigeria society could be summarized under the following sub-heading

***Pre-retirement anxiety*:** One of the major challenges of the retirees in the twenty-first century is pre-retirement anxiety. Pre-retirement anxiety by its nature involves fear and worries about the future of the individual as a result of the cessation of active working life. Anxiety as described by Raymond (1999) is a pervasive and unpleasant feeling of tension, apprehension and feeling of impending disaster which can exist in various forms such as: anxiety disorder, anxiety disturbance, anxiety equivalence, anxiety neurosis, and anxiety tolerance. Some of the major causes of pre-retirement anxiety according to Ode (2004) include: poor time management, total dependence on present salary, problem of securing residential accommodation, ignorance of what to do with pension, attitude of friends and family members, and the challenges of sudden retirement. Pre-retirement anxiety could result to depression which is the primary emotional disorder in old age (Chang, Philips, Coppin, Linden, Ferricci, Fried, & Guralnik, 2009).

***Vulnerability*:** The average health of older adults declines with age (Kado, et al., 2013). Ageing is accompanied by the progressive loss of gammaglobulin (a group of plasma proteins which have antibody activity referred to as immunoglobulin) in human blood. This progressive loss of immunoglobulin in human body results to substantial decline in resistance to infections and increased risks of multiple diseases as well as other numerous health problems such as falls and loss of bone mineral density (Valdez, Angeles, Parega-Coupuz & Harnabdez, 2013). Falls are common among the elderly. Wendy, Mei-Hua, Lane, Kristine & Deborah (2013) study showed that over one third of people aged 65 years and above, fall one or more times every year. In a comprehensive study by Den, Schuurmans, Arts & Vander (2011), it was found that age-related losses in bone mineral density (BMD), muscle strength, balance and gait are associated with an increased risk of falls, fractures, disability and mortality. The decrease in immunity results to vulnerability which leads to increased risks of multiple chronic conditions in later life.

***Poor economic base*:** Nearly, all retirees are living below the poverty line. Poverty and financial instability are common among the retirees particularly those living in rural areas. About 96 percent of the elderly living in rural area is suffering from more than one chronic disease such as high blood pressure, diabetes, dementia, depression, arthritis, among others that requires financial support for medical check-ups (ICSG, 2013). In addition, Valdez, et al. (2013) in comparing the financial challenges of the elderly based on location noted that the older people living in rural areas experience financial problems more than the older people living in urban cities. The ageing population is characterized by the existence of multiple chronic disease conditions that need regular medical check-up to enable them function optimally on daily basis. Such services are paid for especially in developing regions such as Nigeria. In most cases, the services are highly expensive and unaffordable to the retirees. As a consequence, it becomes apparently difficult for the retiree to receive regular medical attention due to low income or poor economic base.

***Loneliness and isolation*:** Loneliness and isolation are among the major challenges facing the retirees and older people are particularly vulnerable to them due to low income, lack of local service, high cost of living, changes in physical outlook, consistent ill-health, among others**.** The retirees who suffer loneliness and isolation are usually faced with more serious health problems such as increased stress and anxiety, increased chances of depression, increased risk of alcohol and other habit forming substance abuse, decreased health of the heart and changes to their immune systems. Loneliness and isolation have also been observed to speed up the degenerative effects of illnesses, even increasing the fatality rate of diseases in elderly such as cancer (Kado, et al., 2013).

***Elder abuse*:** Elder abuse (also called "elder mistreatment," "senior abuse," "abuse in later life," "abuse of older adults," "abuse of older women," and "abuse of older men") is "a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust, which causes harm or distress to an older person (Cook-Daniels, 2003). Elder abuse is common in ageing population and has been considered as one of the most predisposing factors to emotional health problems among the elderly. An abuser can be a spouse, partner, relative, a friend or neighbor, a volunteer worker, a paid worker, practitioner, solicitor, or any other individual with the intent to deprive a vulnerable person of their resources (Cook-Daniels, 2003). Elder abuse according to Robinson (2012) can manifest in different forms which include: physical abuse such as hitting, punching, slapping, burning, pushing, kicking, restraining, false imprisonment/confinement, or giving excessive or improper medication; psychological/ emotional abuse such as humiliating or dehumanization; financial abuse (also known as financial exploitation) such as illegal or unauthorized use of a person's property, money, pension book or other valuables (including changing the person's will to name the abuser as heir); sexual abuse such as forcing the elderly to take part in any sexual activity without his or her consent; and neglect such as depriving a person of food, heat, clothing or comfort or essential medication.

Various efforts in supporting the age

***Supportive facilities, home visits and free drugs and medical services for the aged*:** In attempt to combat some of the major challenges of the retirees (e.g. loneliness and isolation), the individuals, government, missionaries and voluntary agencies came up with some plans of actions. The individuals render domestic and caregiver services, the government focused on establishing supportive age-friendly facilities such as: day centres, lunch clubs, older people's forum, and charities (Central Statistics Office, 2011). Unfortunately, these facilities are not found in every state and the few ones available are not accessible to all retirees. The missionaries as well as the religious do embark on home visits and offering of gift items to the elderly in their respective homes (Andrzej, et al., 2013). The voluntary agencies do offer free drugs, medical and social services to the elderly.

***Reports on elder abuse cases*:** Doctors, nurses, and other medical personnel play vital roles in assisting elder abuse victims through reports on elder abuse cases (Dong, 2005). Study has shown that elderly individuals, on average, make 13.9 visits per year to a physician (FIFARS, 2008). Although there has been an increase in awareness of elder abuse over the years, physicians tend to only report 2% of elder abuse cases. Reasons for lack of reporting by physicians include concern about angering the abuser and ruining the relationship with the elderly patient, lack of time and reimbursement (FIFARS, 2008).

***Health insurance policies for the aged*:** The Nigerian government set up two major health insurance policies (Medicare and Medicaid) with the view of addressing the cost of health and medical care services for their retirees. The Medicare is a contributory (through social security taxes) government health insurance primarily for persons aged 65 years and above while the Medicaid is a non-contributory government insurance programme for all citizens who are receiving other types of public welfare assistance (Ukpore, 2006). Unlike the Medicare, the Medicaid has no age bracket and is administered cooperatively through federal and state agencies. These policies have not satisfactorily addressed the cost of medical and health care cost services in ageing population in Nigeria.

Implications for ameliorating strategies

Strategy according to Berman, Snyder, Kozier and Erb (2007) is defined as planning which is deliberate, systematic process that involves decision making and problem solving. When such planning is geared towards addressing the existing challenges, it is referred to as ameliorating strategy. Such strategies should include:

- ***A well-programmed physical exercise for the aged***: Physical exercise is essential in human body particularly in improving health and functional independence in later life. Harvard Men's Health Watch (2005) highlighted some of the positive effects of physical exercise on the health of the aged to include: increase in maximum pumping capacity; speed of emptying; calcium content; muscle mass and strength; metabolic rate; HDL ("good") cholesterol and quality of sleep also increases. while resting heart rate, heart muscle stiffness, blood vessel stiffness; blood pressure; blood viscosity (thickness); body fat; blood sugar; insulin levels; LDL ("bad") cholesterol; sex hormone levels slightly;

nerve condition and reflexes; risk of depression; and memory lapses decreases.

Implication: The risks of chronic diseases such as high blood pressure, diabetes, dementia, depression, stroke, cardiovascular diseases and arthritis would be reduced.

• ***Proper feeding habit***: Branscombe and Schoemann (2011) noted that engagement in proper feeding habit improves health generally particularly the health older adult. The authors further suggested that low protein intake and more protein from vegetables and less from animal products, less fat, fewer calories, skim milk instead of whole milk product, chicken and fish more, less red meat and greater proportion of whole grains, beans, rice, nuts, fruits, and vegetables should be encouraged for the elderly.

Implication: There would be progressive increase in gammaglobulin (a group of plasma proteins which have antibody activity referred to as immunoglobulin) in the body resulting to substantial increase in resistance to infections and decreased risks of nutritional disorders and chronic diseases.

• ***Regular medical check-Up, free health, medical and social service care for the retirees***: Literature evidence has revealed that about 96 percent of the elderly living in rural areas is suffering from more than one chronic disease such as high blood pressure, diabetes, dementia, depression and arthritis that requires financial support for medical check-ups (ICSG, 2013). Regular medical check-up according to Akubue, (2009) is one of the appropriate measures in improving health, wellness and longevity particularly in old age. These should include seeking physician's advice, regular preventive medical examinations such as breast and prostate cancer.

Implication: There would be early identification of deviations from normal health, increased access to medical, health and social services, improved health, wellness and longevity.

• ***Provision of supportive age-friendly facilities in every local government area of each state for the elderly:*** Supportive facilities such as day centres, lunch clubs and older people's forum could have greater impact in combating some of the major challenges of the retirees such as loneliness and isolation. Kado, et al. (2013) noted that loneliness and isolation have been observed to speed up the degenerative effects of illnesses and fatality rate of diseases in elderly such as cancer. Such age-friendly physical and social environment would promote social relationship and interaction among the elderly.

Implication: Risk of serious health problems associated with loneliness and isolation such as anxiety, depression, and substance abuse would decrease.

• ***Improved attention on elder abuse cases***: The key to prevention of elder abuse is the ability to recognize the warning signs such as signs of restraint, mumbling, and monitoring changes in the caregiver's behavior (Lawrence, Tina, & Jeanne, 2012). In order to prevent elder abuse in ageing population, help should be available to all retirees from as Local Area Agencies on Aging (LAAA), National Center on Elder Abuse (NCEA) and National Committee for the Prevention of Elder Abuse (NCPEA, (2013). These agencies serves as a national resource center dedicated to the prevention of elder abuse and mistreatment

Implication: The rate of elder abuse will reduce drastically.

- ***A planned pre-retirement programme for all employees***: Such programme should include financial/ economic issues, common health problems of the elderly, benefits of physical exercise, need for balanced diet and importance of regular medical check-up. Ode (2004) had earlier outlined some of the major causes of pre-retirement anxiety which include: poor time management, total dependence on present salary, problem of securing residential accommodation, ignorance of what to do with pension, attitude of friends and family members, and the challenges of sudden retirement. The programme would expose and prepare the employees on the issues and anticipated challenges to be faced after retirement.

Implication: The retirees would be prepared to handle anticipated ageing issues and challenges in advance

Conclusion

Based on the foregoing, it is obvious that gerontological issues such as high cost of medical, health and social services, and existence of multiple chronic disease condition are inevitable in ageing population. The challenges of the retirees such as abuse, loneliness and isolation require appropriate strategies in ameliorating them. However, the implications of such strategies are that the risk of chronic diseases, health problems associated with loneliness and isolation, and abuse would decrease while resistance to infections, access to medical and social care services would increase. It would also facilitate pre-retirment preparations for all employees against post-retirement challenges and common health problems of the elderly.

Recommendations

- There is need to educate and train those in criminal justice system, such as police, prosecutors, and the judiciary, on elder abuse, as well as increase legislation to protecting elders. This will help to minimize elder abuse in the society and improve assistance to victims of elder abuse.
- Pre-retirement programme should be organized in different sectors to expose and prepare employees on the issues and anticipated challenges to be faced after retirement.

References

Akubue, P.I. (2009). *Health checks and health promotion: A personal guide to a long active life*. Anambra: Rex Charles and Patrick Ltd.

Anderson, G.F. & Hussey, P.S. (2011). Population aging: a comparison among industrialized countries. *Health Affairs;* 19:191—203

Andrzej, B., Tomasz, S., Magdalena, S., Arfan, S. & Vingerhoets, J.M. (2013). Influence of religiosity on the quality of life and on pain intensity in chronic pancreatitis patients after neurolytic celiac plexus block: case-controlled study. *J Relig Health*; 52: 276-284

Berman, A., Snyder, S., Kozier, B. & Erb. G. (2007). *Fundamentals of nursing (8th ed.)*. New Jersey: Pearson Prentice Hall

Branscombe, N. R. & Schoemann, A. M., (2011). Looking young for your age: Perceptions of anti-aging actions. *European Journal of Social Psychology*, 41: 86-95.

Central Statistics Office (2011). *Survey on Income and Living Conditions (SILC): Thematic Report on the Elderly* 2004. Dublin: Central Statistics Office.

Chang, M., Philips, C., Coppin, A., Linden, M., Ferricci, L., Fried, L. & Guralnik, J. (2009). An association between incident disability and depressive symptoms over 3 years of follow-up among older women: the women's Health and Ageing Study. *Ageing Clinical and Experimental Research*, 21:191-197.

Connolly, S., Finn, C. & O'Shea, E. (2012a). Rural ageing in Ireland: Key trends and issues. Irish Central for Social Gerontology, NUI Galway.

Cook-Daniels, L. (2003). 2003 is the year elder abuse hits the international state. *Victimization of the Elderly and Disabled;* 5:66-76.

Den, O., Schuurmans, M., Arts, I., Vander, S. (2011). Physical performance characteristics related to disability in older persons: a systematic review. Maturitas; 69(3): 208-219

Dong, X. (2005). Medical Implications of Elder Abuse and Neglect. *Clinics in Geriatric Medicine;* 21:293-313.

Ene, O. (2004). *Health, wellness and longevity*. Enugu: Cheston Agency Ltd.

FIFARS (2008). Federal Interagency Forum on Aging-Related Statistics. Washington, DC: Government Printing Office.

Harvard Men's Health Watch (2005). Exercise and ageing: can you walk away from further time? Retrieved 10-05-2013 from www.health.harvard.edu/mens

Hayward, M. & Zhang, Z. (2001). Demography of ageing. In: Binstock, R.H., George, L.K. (eds). *Handbook of ageing and the social sciences 5th edn*. Academic Press, San Diego, pp. 69-85

Howarth, W. (2013). The Value of Rural Life in American Culture. *Rural Development Perspectives;* 12:115-128

ICSG (2013). *Rural ageing observatory*. Irish Centre for Social Gerontology.

Kado, D., Haung, M. & Karlamangla. A. (2013). Factors associated with kyphosis progression in older women: 15 years experience in the study of osteoporotic fracture. *J Bone Miner Res.*; 28:179-187

Kinsella, K. & Velkoff, V. (2001). *United State Census Bureau. An Aging World: 2001.* Washington, DC: U.S. Government Printing Office

.

Lawrence, R., Tina, D.B., Jeanne, S. (2012). "Elder abuse and neglect: Warning signs, risk factors, prevention, and help". Retrieved 16 December 2012.

Manuel, E.H., James, A.A. & Neil, B.A. (2013). Age-related differences in maintenance of balance during forward reach to the floor. *J Gerontol A Biol Sci Med Sci.;* 68: 960-967

Marlsand, D., Colvin, P.L., Mears, S.C., & Kates, S.L. (2010). How to optimize patients for geriatric fracture surgery. *Osteop Int.*; 21:535-546

NCPEA, (2013). *What is elder abuse?* National Committee for the Prevention of Elder Abuse. Retrieved 2013-09-24.

NUP. (2014). *National Union of Pensioners, Enugu State Council Office.* Enugu State.

Ode, T.A. (2004). *Counseling for retirement adjustment*. A paper presented at the 28th Annual National Conference of Counseling Association of Nigeria (CASSON) Maiduguri.

Peter, L. (2010). *Population ageing and international development*. Chicago: University of Chicago Press.

Raymond, J.C. (1999). *Dictionary of psychology*. Philadelphia USA: Brunner/Mazel, Taylor & Francis group

Robinson, D. (2012) "*Elder abuse and neglect*". *Help guide*. Retrieved 15 December 2012

Ukpore, B.A. (2006). *Fundamentals of consumer education (3rd ed.)*. Ibadan: Spectrum Books Limited.

Valdez, J.P., Angeles, J.L., Parega-Coupuz, E. & Harnabdez, C.P. (2013). Perceptions towards ageing among selected Filipino adults. *International Journal of Research Studies in Psychology;* 32: 125-133

Wendy, B.K., Mei-Hua, H., Lane, N.E, Kristine, E.E. & Deborah, M.K. (2013). Kyphosis and decline in physical function over 15 years in old community-dwelling women: the study of osteoporotic fractures. *J Gerontol A Biol Sci Med Sci.*; 68:976-983

WHO (2002). *Active ageing: a policy framework*. World Health Organisation, Geneva

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Nursing Mothers and their Infant Feeding Practices in Udenu Local Government Area of Enugu State

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Abstract

The study assessed the nursing mothers' perceptions of infant feeding practices in Udenu Local government area (LGA) of Enugu State. The population was made up of 282 nursing mothers who had children of 0-2years of age who attended postnatal or immunization services at the primary health centers in the area of the study at the time of this study. Questionnaire and anthropometric measurements were used for data collection. The findings showed six ways mothers perceive breastfeeding, five ways they perceive complimentary infant feeding, nine classes of complimentary food they give to their infants. Anthropometric results indicated the arm circumference, weight and height of the infants. Over half of the infants 62 percent did not fall sick within the one month reviewed. Four recommendations for improving infant feeding practices in the area were made including that Professionals in child development should be involved to handle practical nutrition education on infant feeding practices for mothers at the primary health care service centers.

Key words: Breastfeeding, Infant, Complementary, Feeding, Practices, Mothers.

Introduction

Adequate feeding practices of infants and young children are necessary measures adopted or employed to feed a young child from birth, up to 2 years of age and beyond. Adequate feed is important to ensure that the child gets the right nutrients required to survive and enhance proper growth and development. Adequate nutrition during infancy and early childhood is essential to ensure the growth, health, and development of children to their full potential. Poor nutrition increases the risk of illness, and is responsible, directly or indirectly, for one third of the estimated 9.5 million deaths that occurred in 2006 in children less than 5 years of age (*Nor, Ahlberg., Dohorty,. Zembe, Jackson, Ekstrom, 2012).* Inappropriate nutrition can also lead to childhood obesity which is an increasing public health problem in many countries. The first two years of a child's life are particularly important. The child grows and develops rapidly. If the child is properly fed, he is expected to double his birth weight by the 4th month, and triple it by the first birthday. The brain too requires a lot of nutrients to attain maximum growth during this period. According to Adeyemi (2005) the period birth to 2 years is a "critical window" for the promotion of optimal growth, health and behavioral development. Optimal nutrition during this period lowers morbidity and mortality, reduce the risk of chronic disease and forester better development overall. In fact, optimal breast and complementary feeding are so critical that they could save about 222, 000 lives per year (World Health Organization (WHO) 2013).

Breast feeding is the feeding of an infant with breast milk directly from female human breasts rather than from a baby bottle or any other container. Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases (Okolie, 2012). Breast milk is the best food for babies, providing sufficient nutrients for growth, development and for prevention of both infectious diseases in infancy and chronic (non communicable) diseases later in adult life (Galles – Camus, 2006). It has been postulated that 13% of the current under five children mortality rate could be averted by promoting proper breastfeeding practices (Manjeswori, 2012) which is seemingly the single most cost effective intervention to reduce child mortality in resource-constrained settings such as Nigeria. WHO (2002) recommended exclusive breastfeeding as the ideal practice which ensures that all the child's nutritional needs from birth to about six months of age are met. Exclusive breastfeeding is feeding infants only breast milk, be it directly from breast or expressed, with no addition of any liquid or solids apart from drop or syrups. Evidence shows that not more than 38% of infants worldwide are exclusively breastfed during their first four months of life (WHO, 2013). Nigeria has 20% rate of exclusive breast feeding (Elizabeth, 2008).

It is estimated that non – exclusive breastfeeding in the first six months of life resulted in 1.4 million deaths and 10% of disease in under five. Non exclusive breast feeding also has long term impact, including poor school performance, reduced productivity, and impaired intellectual and social development. It can also increase the risk of dying due to diarrhea and pneumonia among 0 – 5 months old infants by more than two – folds (Tesfaye, Teffer, Mulusew, Kebede and Sibhatu. 2012). Several studies suggest that obesity in later childhood and adolescence is less common among breastfed children, and that there is a dose response effect, with a longer duration of breastfeeding associated with a lower risk (Burke, 2005). The effect may be less clear in populations where some children are undernourished (Grummer-strawn, 2004). A growing body of evidence links artificial feeding with risks to cardiovascular health, including increased blood pressure, altered blood cholesterol levels, and atherosclerosis in later adulthood ((Martin, Gunnel, and Davey Smith, 2005). Though exclusive breastfeeding is widely recognized as the optimal means of feeding for infants during the first few months of life, after six months of age breastfeeding also becomes inadequate for the increased physiological requirements of the infant for energy and specific macro and micro nutrients. Complementary foods should be introduced.

Complementary foods are adult foods other than breast milk given to infants that are modified in colour, texture and flavor, which contains the nutrients required of the child (Felicity and Savage, 2000). Complementary feeding is the gradual introduction of adult or family foods in semi – solid forms (like cereal gruel (pap), mashed potatoes, beans, yam) etc., to babies without stropping breastfeeding (Enyioha, 2005). The transition from exclusive breastfeeding to complementary feeding typically 6 to 24 months of age, is the time malnutrition starts in many infants. Malnutrition causes many different and serious health problems and illness. Malnutrition during the first 2 years of life causes stunting, leading to the child being several centimeters shorter than his or her potential height (Martorell, Kettel, Schroeder 1994). There is evidence that adults who were malnourished in early childhood have impaired intellectual performance (Martorell *et'al 1994).* They may also have reduced capacity for physical work (Grantham and Cumper 1992). If women were malnourished as children, their reproductive capacity is affected, their infants may have lower birth weight, and they have more complicated deliveries (Martorell *et'al 1994*7). When many children in a population are malnourished, it has implications for national development. The overall functional consequences of malnutrition are thus immense.

Many of these problems handicap children for their entire childhood, some lead to death. Diets that do not provide enough food to meet the child's needs, that do not provide adequate variety of food or diets that provide more food than children need, can all lead to malnutrition. Almost 1 million people in the world never get enough food to meet even their minimum energy and nutrient needs, 200 million children less than five years of age suffer from acute or chronic malnutrition. Malnutrition is an important factor in nearly 13 million children under five who die every year from preventable diseases infections such as measles, diarrhea, malaria and pneumonia or some combination of these (UNICEF, 2013) children who are undernourished are not able to lead healthy active and productive lives. They have less energy to carry out normal everyday activities. They are less able to fight infections and they became ill more easily and become more seriously ill, unable to recover adequately from infection or illness. They often need medical care. Children who are undernourished will not grow properly and are often too weak or sickly to attend school or to learn properly. Undernourished children are at risk of slow or inadequate physical and mental growth and development, contributing significantly to high prevalence of malnutrition in children under five years of age world wide (WHO 2004). Majority of children (7 – 24 months) in Nigeria are under – nourished due to introduction of the weaning cereal gruel (pap) to supplement breast milk. Starting complementary feeding too late is dangerous. This is because if the child does not get the extra food needed to fill the energy and nutrient gaps, the child stops growing and the risk of malnutrition and micro nutrients deficiencies increase (WHO, 2000). Giving complementary food too soon is also dangerous. This is because a child does not need those foods and they may displace breast milk the child receives less of the protection from breast milk, so the risk of illness increases (Ujiri, 2004). The food given will only fill up the child's stomach and provide less nutrients because they are usually thin and watery (WHO, 2000).

Purpose of the study

The general purpose of this study was to assess nursing mothers' and their infant feeding practices in Udenu local government area of Enugu State. Specifically, the study determined:

1 Ways mothers perceive and practices of breastfeeding in Udenu LGA of Enugu State.

2 Mothers perceptions and practices of complementary feeding in Udenu LGA of Enugu State.
3 The types of complementary foods used in Udenu LGA of Enugu State.
4 To assess the effect of infant feeding practices adopted on the health status (anthropometric indices) of the infants in Udenu LGA of Enugu State.

Methodology

***Design and Area of the Study*:** The study adopted a descriptive survey design. The study area is Udenu local government area of Enugu State, Nigeria. Udenu LGA is made up of ten communities. These include: - Obollo–Afor, Obollo–Eke, Obollo–Etiti, Amala, Imilike, Orba, Igugu, Umu–Ndu, Ogbodu–Aba and Eziom. Each of these communities has a primary health center. The two major primary health centers are located at Orba and Obollo – Afor the two major commercial towns in the LGA.

***Population of the Study*:** The population of the study consists of 282 nursing mothers who have children birth to 24 months old. Both literate and non literate mothers were involved who had at least a child previously. The mothers were attending post natal or Expanded programme on Immunization at primary health centers Orba and Obollo–Afor at the period of the study.

***Instrument for Data Collection*:** A validated infant feeding practices questionnaire and anthropometric measurements were used to collect data for the study. The infant feeding practices questionnaire was developed through extensive literature review and based on the purposes of the study. The questionnaire is made up of three parts, Part 1 dealt with personal data, part II dealt with breastfeeding perceptions and practices, while part III dealt with complimentary food/feeding perceptions and practices. Non-extensible meter rule graduated in centimeters, a flat clean table, and a scale graduated in kilograms were used to take the Anthropometric measurements of the infants.

***Method of Data Collection and Analysis Technique*:** Two hundred and eighty two copies of the infant feeding practices questionnaires were distributed to the respondents at Orba and Obollo – Afor health centers on three different clinic days. The questionnaires were filled on the spot by the literate mothers while the non – literate mothers were assisted by the researcher and the trained research assistants in filling theirs. The same numbers of questionnaires given to the respondents were retrieved giving a hundred percent returns of the instrument. Anthropometric measurements were carried out by the researcher and two trained assistants. Length/height was measured using a non-extensible meter rule graduated in centimeters with the babies laid flat on a flat clean table. The weight was taken with a scale graduated in kilograms while the babies were naked and laid flat on the scale. Arm circumference was recorded in centimeter while the babies were lying flat. The data obtained was analyzed using frequency distributions and percentages.

Findings of the study

Socio – demographic characteristics of the respondents: Majority (54) % of the mothers were aged 26 – 35 years, 33% were aged 15 – 25 years, and 1% were aged 46 – 55 years. Among the respondents 90% were married, Majority of the respondents (54%) had secondary school education.

About 55% of the respondents were traders. Most of the respondents 83% had between 1 – 4 children. Age of the youngest child of the respondents 77% had babies birth to 6 months. Respondents that attended antenatal clinics during pregnancy was 93%, 95% of the respondents received teachings on infant feeding at the clinic.

Mothers perception of breast milk/feeding

Table 1: Percentage Responses on Mothers' perceptions on breast milk/feeding

S/No	Mothers' perceptions	Yes F (%)	NO F (%)
1	Breast milk is the natural and healthiest food for baby	270(96)	12(4)
2	Breast milk provides protection against most childhood diseases	264(94)	18(6)
3	Breast milk protects the mother against certain diseases	207(73)	75(27)
4	Breastfeeding is economical for the mother, family and the nation	276(98)	6(2)
5	Breastfeeding helps in child spacing	225(80)	57(20)
6	Breast milk alone is enough for babies from birth to 6 months	258(91)	24(9)

Key: - F=frequency, %=percentage

Table 1 shows mothers perceptions about breast milk/feeding. The Table indicates that 96% of mothers knew that breast milk is the natural and healthiest food for babies. Ninety four percent (94%) of the respondents knew that breast milk provides protection against most childhood diseases. Eighty percent (80%) of the respondents knew that breastfeeding helps in child spacing. Majority of the respondents (91%) know that breast milk alone is enough for babies from birth to six months of age.

***Findings on breastfeeding practices of mothers*:** The breast feeding practices of the respondents, reveal that 132(47%) of the respondents initiated breastfeeding within one hour after delivery, while only 48(17%) initiated the next day after delivery. Majority 262(93%) gave their babies colostrums. Over half 150(53%) practiced exclusive breastfeeding. Almost half of the respondents 138(49%) gave their babies coconut water at birth. Most 225(90%) of the mothers breastfed their babies as many times as the baby demanded. Majority 93(33%) terminated breastfeeding at 10 to 12 months and 123(44%) terminated breastfeeding at 13 – 24 months.

Mothers perceptions of complementary foods /feeding

Table 2: Percentage Responses on Mothers perceptions of complementary foods /feeding

S/NO	Mothers perceptions of complementary foods /feeding	Yes F (%)	No F (%)
1	Age at which complementary food is introduced		
	a. Birth-3months	57(20)	225(80)
	b. 4-6 months	99(35)	183(65)

	c. 7 -9 months	102(36)	180(64)
	d. 10 months and above	24(9)	258(91)
2	Meaning of complementary food	255(90)	27(10)
3	Breast milk is continued on complementation	249(88)	33(12)
4	Starting complementary food too late is dangerous	228(81)	54(19)
5	Starting complementary food too early is equally dangerous	228(81)	54(19)

Key: - F=frequency, %=percentage

Table 2 shows nursing mothers perceptions of complementary feeding/foods. 57(20%), 99(35%) and102(36%) of the respondents introduced complementary foods to their babies at the ages of birth – 3 months, 4 – 6 and 7 – 9 months respectively. Most 255(90%) of the respondents knew the meaning of complementary food. Majority 249(88%) of the respondents continued breastfeeding with complementary food. Many of the respondents 288 (81%) knew that starting complementary feeding too late or too early is dangerous.

Finding on Complimentary Feeding Practices of Mothers**:** findings on complementary feeding practices of mothers reveal that majority 249(89%) of the respondents continued breastfeeding as well as the use complementary food. Over half 177(57%) of the respondents were using feeding bottle. About one third 90(31%) of the respondents wash the utensils with cold water and soap. Over half 171(59%) used both cold and hot water. Two thirds 189(70%) of the respondents feed their babies 3 – 4 times daily. Majority 246(87%) of the respondents prepared the complementary foods by themselves. Almost all 279(99%) of the respondents practiced hand wash before preparing and feeding the children. About two thirds 189(70%) store the prepared baby food in food flask. Almost half 122(43%) of the respondents prepare the baby's food separately always. Drinking water for the babies 138(49%) boiled babies water, while 96(34%) used package water (pure water).

Complimentary Foods Used by Mothers

Table 3: Percentage Responses on the Complimentary Foods Used by Mothers

S/no	complimentary foods	Frequency(%)
A	Complementary foods used	
	Infant formula eg cereal	21(7)
	Pap only	12(4)
	Pap + milk	129(40)
	Pap + soya bean milk	111(35)
	Pap, milk + sugar	6(2)
	Pap + crayfish	12(4)
	Custard + milk	9(3)
	Pap & groundnut	6(2)
	Family food + pap	15(5)
B	Fruits given to babies	
	Orange	150(50)
	Carrot	3(1)
	Mango	3(1)
	Pineapple	42(14)
	Paw-paw	36(12)
	Green leaf vegetable	54(18)
	Apple	15(5)

Key: - F=frequency, %=percentage

Table 3 shows that majority (40% and 35%) of the respondents were complementing breast milk with cereal gruel (pap) + milk and cereal gruel (pap) and soya bean milk respectively. Half (50%) were complementing with orange. About 18% were used green leafy vegetable.

Anthropometric Indices of the Health Status of Infants

Table 4: Anthropometric distribution of the infants

Anthropometric distribution of the infants	Frequency(%)
Arm circumference (CM)	
13 – 14	84(30)
15 – 16	130(46)
> 16	68(24)
Total	282(100)
Weight (kg)	
< 4.0	24(9)
4.1 – 6.0	99(35)
6.1 – 9.0	129(46)
9.1 – 11	30(11)
11. 1 – above	-
Total	282(100)
Height (cm)	
30 – 60	115(41)
61 – 80	161(57)
> 80	6(2)
Total	282(100)

Table 4 shows anthropometric data of the infants. Almost half (46%) of the babies had arm circumferences of between 15 and 16 cm. About 46% of the infants weighed between 6.1 – 9kg, while about 35% weighed between 4.1 – 6kg. Majority (57%) of the infants studied had a length of between 61– 80cm.

Frequency of Sickness among Infants

Findings on infant health status as measured by frequency of sickness in the past one month, shows that 119(42%) of the babies did not fall sick within the previous month reviewed. While 136(48%) of the babies were sick once within the last one month under review.

Discussion of findings

Demographic characteristics of respondent, two hundred and eighty two nursing mothers participated in the study, comprising of 55% traders, 18% students, 15% civil servants, 9% full time housewives and 3% farmers. About 87% of the respondents were 15 to 35 years old. Over half 54% of the respondents were secondary schools holders, 25% attended tertiary education, the rest had primary education and non-formal education. About 90% of the respondents were married, 9% were single mothers the rest were widowed. Eight two percent had 1 – 4 children, 76% had their youngest child aged birth – 6 months. 93% of the mothers attended antenatal clinics and received teachings on infant feeding practices. This shows that the primary health facility in Enugu state is functional affecting the people positively. This is contrary to the report of Manjeswori (2012), that three quarters of all mothers he studied reported that they did not receive any information on breastfeeding during the antenatal visit

Ninety –six percent (96%) of the respondents had good perceptions about breast feeding/milk; that it is the natural and healthiest food for babies provides protection against most childhood diseases helps in child spacing; it alone is enough food for babies from birth to six months of age. This awareness about breast feeding/milk could be attributed to the educational level of the respondents about 79% of them attended secondary and tertiary education and were literate, over 90% of them attended antenatal clinics during pregnancy and received teachings on infant feeding practices and a good number of the mothers 82% used for the study had 1 – 4 children already and so are experienced in the act of infant feeding. This awareness is in line with the report by Galles-Camus, (2006) that breast milk is the best food for babies, providing sufficient nutrients for growth, development and for prevention of both infectious diseases in infancy and chronic (non communicable) diseases later in adult life

About 47% of the respondents initiated breastfeeding within one hour after delivery. Majority 93% gave their babies colostrums. These are in line with the recommendation by WHO (2004) that babies should be put on the breast immediately after delivery even before they are cleaned up. It also agrees with the findings of Manjeswori (2012) 295(91%) of mothers gave their babies colostrums and 185 (57%) initiated breastfeeding within one hour of delivery.

Over half of the mothers (53%) practiced exclusive breastfeeding. This could be because most of them were traders; they did not employ the services of childcare givers and were always with their babies. This is in line with the observation of Ford and Labbok (1990) that the demographic characteristics of mothers affect the initiation and duration of breastfeeding and practices. The finding agrees with the campaign to promote breastfeeding for its health benefits by (Okoli, 2012). The finding disagrees with the report by Rasheed (1994) that while a remarkable resurgence of breastfeeding has been observed in the industrialized countries since 1970s, a downward trend in breastfeeding during the last 20 years in developing countries has caused increased concern among the providers of child health and development. Mushaphl, Mbhenyane, Khosa and Amey (2008) reported among their findings that exclusive breastfeeding was practiced by only 6% of the mothers at the time of their study. Also Hofoander (2003) observed that the practice and duration of breastfeeding have declined in many parts of the world for variety of cultural reasons including modernization. Udenu community with its attendant business nature is not reflecting that, almost half of the respondents initiated and continued breastfeeding as recommended by (WHO, 2004). About 90% of the mothers' breastfed their babies on demand. This is in line with the suggestions of Olatunji (2013) for adequate nutritional practices for under five years children. About 77% of the mothers terminated breastfeeding from 10 – 24 month. This practice is not in line with the recommendations of WHO that breast feeding should be continued up to 24 months.

About 92% of the mothers knew the meaning of complementary feeding, 80% of the respondents knew that starting complementary feeding too early or too late is dangerous; This is in line with (Ujiri, 2004) because a child does not need those foods and they may displace breast milk the child receives less of the protection from breast milk, so the risk of illness increases. 55% of the mothers introduced complementary foods to their babies from birth to 6 months, 36% introduced complementary food after 6 months, 88% continued breast feeding with complementary food, these are in line with the WHO recommendations for infant feeding. Over 50% of the respondents prepare the complementary foods by themselves under hygienic conditions. Most the complementary skills displayed by the respondents were gotten from the various teachings at the pre and post natal clinics. This is in line with the submissions by Olatunji (2013) that majority of the unfortunate deaths of the under five years old are due to preventable causes which could be averted by simple methods such as household hygiene practices, good nutritional practices and health seeking behavior.

Majority of the mothers (75%) complemented with cereal gruel (pap) and milk or soya bean milk as their infant first solid food. These combinations though adequate in energy and nutrients lack variety, about 67% also complemented oranges and green leafy vegetables. These are in line with the recommendations of Michaslsm, Arthur and George (2000) that transitional foods offered to infants should have energy and nutrient densities. Ebrahin (2007) and Eneobong (2001) had shown that cereal when supplemented with legumes provide high quality protein.

46% of the babies had arm circumferences of between 15 and 16 cm, 46% of the infants weighed between 6.1 – 9kg, and 57% of the infants studied had a length of between 61– 80cm.Most of the infants had adequate nutritional status and met the World Health Organization (WHO, 2006) standards for length and weight for ages the values of the babies arm circumference and weight for length also showed no evidence of acute malnutrition. Over half (62%) of the babies did not fall sick within the previous month reviewed. This is in line with finding of Madukwe and Edeh (2012) on the health status of infants in Nsukka local Government Area of Enugu state. This disputes the report of Felicity and Savage (2000) on high prevalence of malnutrition during the complementary feeding period. This disagrees with the findings of Brown (2005) which noted a marked increase in the danger of gastroenteritis in developing countries during complementary feeding period. This must have been because the mother were preparing the food and handling the feeding utensils themselves. It could also be that since most mothers were traders they adopted exclusive breastfeeding for its economical and convenience nature. The infant health status is in agreement with the report of WHO (2004) that breastfed babies are less likely to become sick

Conclusion

Infant feeding practices among nursing Mothers in Udenu LGA of Enugu State has greatly improved over time and is presently adequate resulting in improvement in infant health in the area. These successes are mostly due to the demographic characteristics of the mothers, increased awareness of mothers on infant feeding practices and the primary health facilities and services available to the communities in the LGA.

Recommendation

There is still need for improvement in the infant feeding practices in the area.

1. Professional in the area of child development should be involved to handle practical nutrition education on adequate infant feeding practices for mothers,
2. Mothers should be encouraged to initiate breast feeding immediately the baby is born this will also ensure full utilization of colostrums.
3. Mothers should be encouraged to practice exclusive breastfeeding.
4. Early and late introduction of complimentary foods should be discouraged.

References

Adeyemi, I.A. (2005). Prospect for upgrading trade traditional technology for complementary food manufacturers *proceeding of the 13th annual conference of food science and technology, Balogh E. ed. 85 – 94.*

Brown, J.E. (2005). *Nutrition through life cycle*. 2nd ed. Thomson Wadsworth Publications.

Burke V, (2005) Breastfeeding and overweight: longitudinal analysis in an Australian birth cohort. *Journal of Pediatrics.147:56–61.*

Ebrahim, G.J. (2007). *Practical mother, newborn and child care in developing countries.* Book Aid, London)electronic edition).

Elizabeth, K. (2008). Infant and young child feeding china. International peace maternity and child Hospital Shanghal. Retrieved from www.Unicef.org/nutrition/index-breastfeeding.html.

Ene-Obang, H.N. (2001). *Eating right*. A nutrition guide. University of Calabar Press Calabar. Pp. 93 – 96.

Enyioha, S.A. (2005). *Complementary Foods. A guide for mothers and health workers.* Nigeria Slim line communications limited, Kaduna

Felicity, B.A. and Savage, K.F. (2000): *Nutrition for developing countries*. Oxford Medical publications. (2nd ed). Oxford University press New York.

Ford, K. and Labbok, M. (1990): Who is breastfeeding? Implication of associated social and biomedical variable for research on the consequences of methods of infant feeding. *American journal of clinical Nutrition. 12: 451 – 456.*

Galles – Camus, L.C. (2006). Nutrition; an input and foundation for health. Tackling the double burden of malnutrition a global agenda. *UNS/SCN News 23 pp 6 – 9.*

Grantham-McGregor SM, Cumper G. (1992) Jamaican studies in nutrition and child development, and their implications for national development. *The Proceedings of the Nutrition Society. ;51:71–79.*

Grummer-Strawn LM, Mei Z.(2004) Does breastfeeding protect against pediatric overweight? Analysis of longitudinal data from the *Centers for Disease Control and Prevention Pediatric Nutrition Surveillance System. Pediatrics. 113 81–86.*

Hofvander, Y. (2003). *Maternal and young child nutrition*. UNESCO Education. Series No 3 Paris, UNESCO.

Madukwe E.U. and Edeh, R.I. Evaluation of infant feeding practices of mothers in Nsukka Local Government Area, Enugu State. *Journal of Home Economics Research 16, 230-245.*

Manjeswori, U. (2012) infant feeding practices in Bhaktapur, Napepal: across-sectional, health facility based survey. International Breastfeeding journal 7(1)

Martorell R, Kettel Khan L, Schroeder DG.(1994) Reversibility of stunting: epidemiological findings in children from developing countries. *European Journal of Clinical Nutrition*. ;58(.1)45–57.

Martin RM, Gunnell D, Davey Smith G. (2005) Breastfeeding in infancy and blood pressure in later life: systemic review and meta-analysis. *American Journal of Epidemiology.161:15–26.*

Michaelson, A., Arthur, D.E. and George, B (2000). The contribution of Weaning foods to protein energy malnutrition. *Nutrition Research Reviews.3, 25 – 47.*

Mushaphl,L.F. Mbhenyane,X.G. Khosa, L.B. and Amey A.K. (2008) infant feeding practices of mothers and Nutritional status of infants in the Vhembe District of Limpopo province. *South African journal of clinical nutrition 21(2)36-41*

Nor, B., Ahlberg, B.M., Dohorty, T. Zembe, Y. Jackson D. Ekstrom, E.C. (2012) Mother's percep0tions and experiences of infant feeding within a community-based peer counseling intervention in South Africa. Journal of maternal child nutrition 8(4) 448-458.

Olatunji, S. (2013) infant mortality rate still high in Nigeria. Retrieved from file:///c:/users/user/desktop/infant

Okolie, U. (2012) problems encountered by breast feeding mothers in their practices of exclusive breastfeeding in tertiary hospitals in Enugu state, south –east Nigeria. *International journal of Nutrition and* *metabolism 4(8)107*. Retrieved from http; /www.academic journal.org/ijnam.

Rasheed, P.(1994) perception of infant feeding practices among mothers –to –be: an urban –based school study. *Journal of family and community medicine 1(1)72-78*. Retrieved from http:/ /www jfcmonline.com/

Tesfaye, S., Teffera, B., Mulusewo, A., Kebede, D., Sibhata¸B. (2012). Factor associated with exclusive breastfeeding practices among mothers in Goba district. South east Ethiopia a cross-sectional study. international breast feeding journal vol 7;17. retrieved from http// www.international breastfeeding journal .com/ content/7/1/17.

Ujiri, M.O. (2001). Malnutrition. A socio-economic approach. Lagos: *Health Network digest, Nigeria*.

WHO (2006). *World Health Organization child growth standards*. Department of Nutrition for Health and Development, WHO Press.

WHO (2004). Promoting proper feeding for infants and young children. WHO, Geneva. http://www.who.int/nutrition/topic/intantfeeding/en.

WHO (2002). Infant feeding practices and their relationship with diarrhea and other diseases in Huascar. (Lima), Petu Pediatrics, 83: 31 – 40.

WHO (2000). *Management of the child with a serious infection or sever malnutrition*. WHO 1211 (New edition), Geneva, Switzerland.

WHO (2013). Infant and young child feeding. Retrieved from www.who.int/mediacenter/factsheets/fs342/en/

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Strategies for Improving Students' Skill Acquisition in Clothing and Textiles in Tertiary Institutions in Lagos State

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Abstract

This study examined the problems hindering students' skill acquisition as well as the strategies for improving skill acquisition in Clothing and Textiles courses in Tertiary Institutions in Lagos State. Descriptive design was adopted. The population comprised of all Home Economics lecturers and students in four tertiary Institutions in Lagos State. Questionnaire was used for data collection. Data were analysed using mean. Results revealed, among others, that there are no tools and equipment in the clothing and textiles laboratories in the schools and the course was not properly funded. It was therefore recommended, among others, that students' practical classes should be funded by the school; exhibition fashion shows should be organized to motivate the students.

Key Words: Clothing, Textiles, Motivation, Strategies, Skill, Acquisition.

Introduction

Clothing and Textiles is one of the three major areas of Home Economics taught in tertiary institutions in Lagos State. Uko-Aviomoh (2005) described Clothing and Textiles progamme as an entrepreneurial-based and skill oriented field of study that is expected to equip learners with saleable skills that make for self-reliance and paid employment. It equips students with skills and helps in development of creativity and artistic abilities. Osifeso (2004) opined that the aim of clothing and textiles curricular at the tertiary level is to teach the learners how to strategically plan and use available resources in their environment to improve their homes, families and societal clothing needs. Arubayi (2010) asserted that clothing and textiles is characteristically skill and activity oriented which when properly taught with relevant tools and equipment will equip the learner with saleable skills needed for self-reliance.

Sarpong, Howard and Amankwah (2012) observed that lecturers of Clothing and Textiles are expected to equip students with key skills and knowledge that will make their graduates employable and self-reliance, thus reduce unemployment and poverty. One of the eight Nigerian Millennium Development Goals is to eradicate extreme poverty. Nwazor (2012) stated that for Nigeria to achieve the Millennium Development Goals, capacity building of students through adequate skill acquisition in various fields of study especially in Vocational Technical Education is mandatory because it is an essential tool to any nation's growth and development. Azikiwe (2012) defined capacity building as the process by which individuals, irrespective of sex, are equipped with skills and knowledge they need to perform effectively and efficiently in their different callings. Nwazor (2012) also noted that capacity building could also be seen as the ability that enables people to make use of their creative potentials, intellectual capacities and leadership abilities for personal as well as national growth and development.

Quigley, Marshall, Deaton, Cook, & Padilla, (2011) asserted that teachers have the great challenge and responsibility of helping students learn so that they develop the skills and knowledge needed to function in today's world. There is need to help students move beyond being passive recipients of knowledge to become knowledge builders, capable of generating creative and innovative solutions to problems.

Arubayi and Obunadike (2011) stated that the teacher has enormous role to play in motivating and imparting knowledge in clothing and textiles to students. The effectiveness of the teacher depends on the application and transfer of technical and professional skills, knowledge and competencies to the learner and the management of the learning environment. Sarpong, Howard and Amankwah (2012) contend that the demand for teaching in higher education involves learning processes which require lecturers to set clear and precise aims and objectives with proper understanding of the knowledge and skills they transfer. Instructional strategies and materials that lecturers use influence their success. Lecturers who use greater variety of instructional techniques and support their teaching with instructional materials are more likely to promote greater learning among students.

World Bank Report (2012) noted that unless government and the Ministries of Education tackle the problems created by inadequate supplies of books and equipment, the reforms in education and students capacity building, no matter how far reaching, are unlikely to be effective. Mberengwa (2004) had earlier on pointed out the need for upgrading of laboratories as priority especially with technology equipment.

Arubayi 2014 mentioned that funding is the life-wire of any educational programme and the bed rock for any effective acquisition of practical skills. No practical skill can be acquired without the provision of funds for procurement of consumables and non-consumable resource materials. If Clothing and Textiles is to meet the national goals as stipulated in the policy document on Education (2004), the programme should be properly funded. Funds are required for the provision of facilities such as classrooms, libraries, laboratories, workshops, furniture and the maintenance of these facilities. The Clothing and Textiles laboratories need equipment suitable for the skill to be acquired in such laboratories. The laboratories need to be equipped with consumables and non-consumables for practical purposes.

Most graduates of Home Economics cannot draft, cut and sew a good dress, skirt/trouser or a blouse without assistance. This shows that there is a problem among the students in skill acquisition. The implication is that adequate teaching and learning has not taken place in schools. This paper empirically examined the motivational strategies for improving skill acquisition of clothing and textiles students in tertiary institutions in Lagos State.

Purpose of the Study

The major purpose of this study was to determine the motivational strategies that can improve students' skill acquisition in Clothing and Textiles courses in tertiary institutions in Lagos State. Specifically, the study sought to:

1. identify the problems hindering students' skill acquisition in Clothing and Textiles courses.
2. determine strategies for motivating students in clothing and textiles for skill acquisition.

Research Questions

The following research questions guided the study:

1. What are problems hindering students' skill acquisition in clothing and textiles courses?
2. What are the motivational strategies for enhancing students' skill acquisition in clothing and textiles courses?

Methodology

***Design and area of the Study*:** The study adopted descriptive research design. The area of the study was Lagos State. There were only four tertiary institutions offering Home Economics Education in Lagos State at the time of the study.

***Population for the Study*:** The total population was one hundred and eighty (180) which consisted of all Home Economics students and lecturers in four tertiary institutions in Lagos State. In University of Lagos (Unilag), there are three (3) lecturers in Home Economics unit and fifty (50) students; in Federal College of Education (Technical) Akoka [FCE(T)A], there are nine (9) lecturers in Home Economics unit and fifty-seven (57) students; in Adeniran Ogunsaya College of Education (AOCOED), there are five (5) lecturers and thirty-seven (37) students while in Yaba College of Technology, affiliated to University of Nigeria, Nsukka [YCT(UNN)], there are three (3) lecturers in Home Economics Unit and sixteen (16) students. This population was considered small and manageable, so the entire population was studied. There was no sampling.

***Instrument for Data Collection*:** Questionnaire and interview schedule were used for data collection. The questionnaire was divided into two sections. Section A dealt with demographic data of the respondents while section B dealt with the purposes of the study. It had a 4-point scale of: Strongly Agreed (SA) = 4, Agreed (A) =3, Disagreed (D) = 2, Strongly Disagreed (SD) = 1. Three Home Economics lecturers in Yaba College of Technology, Yaba, Lagos; University of Lagos and Federal College of Education (Technical) Akoka, Lagos, validated the instrument. Cronbach Alpha method was used in determining the internal consistency of the instrument and it yielded reliability co-efficient of 0.92.

***Method of Data Collection*:** One hundred and eighty copies of the questionnaire were distributed to the lecturers and students. Efforts were made to ensure that the items were filled correctly without omitting any of the needed information. The questionnaires were retrieved immediately. All the questionnaires were returned showing 100% return rate.

***Method of Data Analysis*:** Data were analyzed using mean. Mean ratings from 2.5 and above were considered as agreed upon while mean ratings of 2.49 and below were considered as disagreed upon.

Findings of the Study

Personal Data of Respondents: Result showed that the lecturers in Home Economics Department in the four tertiary institutions in Lagos State are all females. Data on the qualification of lecturers teaching clothing and textiles' courses indicated that three had MSc., two had MEd. and one had BSc.(Ed). The lecturer's years of experience showed that two had 20 years and above teaching experiences while four had 5-10 years teaching experiences.

Problem Hndering Skill acquisition in Clothing and Textiles

Table 1: Mean Responses on Problems Hindering Students' Skill Acquisition in Clothing and Textiles.

S/N	Problems hindering Students' Skill Acquisition in Clothing and Textiles	X	Decision
1	Method of teaching may demotivate student's performance in clothing and textiles.	3.51	Agreed
2	Inadequate facilities and infrastructures may affect student's skill acquisition rate.	3.76	Agreed
3	Inadequate time for practical will affect students' performance in clothing and textile.	3.48	Agreed
4	Lack of instructional materials may not affect students' performance.	2.14	Disagreed
5	Inadequate tools and equipment makes it hard for students to acquire skills and perform better in clothing and textiles.	3.55	Agreed
6	Inadequate laboratories, workshop demotivates students' performance in clothing and textiles.	3.54	Agreed
7	Inadequate qualified teachers could motivate students' interest in clothing and textiles.	2.00	Disagreed

Table 1 shows that almost all the respondents agreed with the items listed as problems hindering students' skill acquisition in clothing and textiles.

Information generated from interview on problems hindering students' skill acquisition in clothing and textiles was summarized as:

(i) Lack of technology tools and equipment in the schools. These technology tools include Computer Aided Pattern Drafting software, computerized sewing machines for industrial designs and embroidery, specialized machine accessories for sewing bags, shoes, caps and duvet.

(ii) Lack of machines for knitting and looms for weaving.

(iii) Inadequate funding and lack of incentives and subsidized materials for practicals.

(iv) Lack of storage space in clothing laboratories and the cumbersome nature of carrying brown papers and calico used for pattern drafting, alteration and adaptation.

(v) Poor perception of the course. Respondents mentioned that people still feel that Home Economics is meant for those who are academically weak. Some of the students stated that they found themselves in Home Economics

Department because other departments refused them admission.

(vi) Inadequate manpower and specialists in Clothing and Textiles.

Strategies for Improving Students' Skill Acquisition

Table 2: Mean Responses on Motivational Strategies for Improving Students' Skill Acquisition in Clothing and Textile Courses.

S/N	Strategies for Improving Students' skill Acquisition in Clothing and Textile Courses.	X	Decision
1	Lecturers should adopt teaching methods that can impart the needed skills and knowledge to the students	3.51	Agreed
2	Inadequate facilities and infrastructure may affect student's skill acquisition rates	3.76	Agreed
3	Inadequate practical will affect student's skill acquisition rates in clothing and textiles	3.48	Agreed
4	Lack of instructional material may not affect student's skill acquisition rates	2.14	Disagreed
5	Inadequate tools and equipment makes it difficult for students to acquire the needed skills in clothing and textiles courses.	3.55	Agreed
6	Ill equipped laboratories will demotivate students and affect their skill acquisition rates.	3.54	Agreed
7	Provision of functional tools and equipment for effective teaching and learning would motivate students and improve their performances in clothing and textiles courses.	3.59	Agreed
8	Exhibiting the items produced by the students would help to encourage and motivate students	3.66	Agreed
9	In-service training should be provided for lecturers to help up-date their knowledge	3.65	Agreed
10	Professionally trained clothing and textiles personnel should be employed to teach the courses.	3.34	Agreed
11	Clothing and textiles teachers should take students out on field trips to textile industries and sewing institutes to motivate the students.	3.07	Agreed
12	Practical classes should be held always to support the theoretical aspects for better skill acquisition.	3.58	Agreed
13	Students should be encouraged to develop interest in clothing and textiles through positive reinforcement	3.16	Agreed
14	Fashion shows should be organised in schools to arouse students' interest in clothing and textiles courses	3.57	Agreed
15	Lecturers should always make their lessons learner centered.	3.52	Agreed
16	Students should have free access to clothing and textiles laboratories and studios for continuous practice.	3.53	Agreed
17	Government should fund clothing and textiles practical classes so as to motivate students and increase their skill acquisition.	3.53	Agreed

Table 2 reveals that the respondents agreed with the 17 strategies that would help to improve students' skill acquisition in clothing and textiles courses.

Information from interview on ways of improving students' skill acquisition was summarized as:

(i) Need for change in the nomenclature of Home Economics.
(ii) Provision of clothing and textiles laboratories equipped with technology tools and equipment.
(iii) Provision of incentives such as calico and brown papers for students practicals.
(iv) Employment of Clothing and Textiles Specialists to teach the course.
(v) Lecturers teaching with suitable methods and techniques that increases students' participation and skill acquisition rate.

Discussion of Findings

The study revealed that the problems hindering students' skill acquisition in clothing and textiles include inadequate tools and equipment which makes it difficult for students to acquire the needed skills in clothing and textiles. This is in line with Arubayi (2011) who mentioned that the major problem impeding skill acquisition in clothing and textiles is ill equipped laboratories. This implies that if students are to acquire the basic skills needed for self-reliance and national development, they need to be taught with the right tools and equipment. In the same vein, Omoniyi (1999) asserted that the use of specialized laboratories, workshops, tools and equipment are essential in teaching and acquisition of skills in clothing and textiles. The learning process is facilitated and made more meaningful when students study in classrooms that are well ventilated and adequately equipped. Also in support of this finding, Arubayi (2010) asserted that clothing and textiles is characteristically skill and activity oriented which when properly taught with relevant tools and equipment will equip the learner with saleable skills needed for self-reliance.

Respondents mentioned that their schools have no machines for knitting and looms for weaving. Knitting machines are needed to enable the students acquire skills on how to knit cardigans, baby's set (bootees, mitten, cap, trouser, top, flannel and pants), shawls, toys, table sets and household linen. Looms for weaving on the other hand, would enable students acquire skills on how to weave clothing articles such as "Asho oke", "Akwaete" and "Anioma". These machines are needed in tertiary institutions offering clothing and textiles so as to equip students adequately so that they can easily set up business of their own and be employers of labour. Knitting and weaving of various clothing articles are very lucrative businesses in Nigeria. Home Economics graduates with such skills can make and supply cardigans to schools, make and supply customized "Asho oke" or "Anioma" for "Asho-ebi" used for parties in Nigeria. In line with this finding, Adeyemo (2009) defined skill as an act of having practical knowledge acquired through learning. Although skill depends essentially on learning, it is thought of as a quality of performance which does not depend solely upon a person's fundamental, innate capacities but must be developed through training, practice and experience. Effective acquisition of skills can only take place when learners are taught with adequate tools and equipment. To further buttress this finding, Sarpong, Howard and Amankwah (2012) mentioned that lecturers teaching Clothing and Textiles are expected to equip students with key skills and knowledge that will make their graduates employable and self-reliance which will help reduce unemployment and poverty.

Findings revealed that there are no technology tools and equipment in the schools. These technology tools include Computer Aided Pattern Drafting software, computerized sewing machines for industrial designs and embroidery, specialized machine accessories for sewing bags, shoes, caps and duvet. These technology tools and equipment are needed to equip students with clothing skills needed in the present society. In line with this finding, Mberengwa (2004) mentioned that upgrading of clothing and textiles laboratories is a priority especially in technology equipment. Quigley, Marshall, Deaton, Cook, & Padilla, (2011) asserted that educators are charged with the great challenge and responsibility of engaging students in learning so that they develop the skills and knowledge needed to function in today's world. Also in support of the finding, World Bank Report (2012) stated that to produce well trained graduates with excellent skills, further and higher education institutions must be able to bring together the minimal inputs necessary for successful performance and skill acquisition.

The study also revealed that methods of teaching may demotivate students' skill acquisition in clothing and textiles courses. This finding corroborates Arubayi and Obunadike (2011), who stated that the teacher has enormous role to play in motivating and imparting knowledge in clothing and textiles to students. The effectiveness of the teacher depends on the application and transfer of technical and professional skills, knowledge and competencies to the learner and the management of the learning environment. The finding is also in line with Ogwu and Oranu (2006) that methods of teaching, lack of utilization of teaching aids constituted problems to the teaching and learning of clothing and textiles courses.

Respondents complained that inadequate funding is a major problem facing skill acquisition in Clothing and Textiles. Clothing and Textile as a skill oriented course is capital intensive. Students are faced with the problem of buying commercial patterns, brown papers and calico for pattern drafting, alteration and adaptation practical. However, when there is proper funding and provision of adequate tools and equipment, students' interest and skill acquisition rates will be increased. In support of this finding, Arubayi (2014) mentioned that funding is the life-wire of any educational program and the bed rock for any effective acquisition of practical skills. No practical skill can be acquired without the provision of funds for procurement of consumables and non-consumable resource materials. If Clothing and Textiles is to meet the national goals as stipulated in the policy document on Education (2004), the programme should be properly funded.

Conclusion

Clothing and Textiles is a practical oriented course with emphasis on skill acquisition. Skill is the ability to perform some tasks creditability. Skill acquisition depends essentially on learning which must be developed through training, practice and experience. The desired objectives of Clothing and Textiles cannot be achieved without making provision for basic technology resources necessary for skill acquisition. Lecturers need to expose students to strategies and techniques that will assist them to acquire life skills and competences to maximize their potentials for successful employment and self-reliance.

Recommendations

Based on the findings of this study, the following recommendations were made:

- There should be provision of well-equipped laboratories with technology tools and equipment.
- Lecturers teaching clothing and textiles courses should adopt teaching methods that can impart the needed skills and knowledge to the students.
- Clothing articles produced by the students should be exhibited to encourage and motivate the students.
- Students' practical classes should be funded by the school to motivate the students.
- Fashion shows should be organized to motivate the students.
- Clothing and textiles lecturers should take their students on field trips to textile industries and sewing institutes to motivate the students and increase their interest.

References

Adeyemi, S. A. (2009). Understanding and Acquisition of Entrepreneurial Skills: A Pedagogical Re-Orientation for Classroom Teacher in Science Education. *Journal of Turkish Science Education,* 6 (3) 58-65.

Arubayi, D.O. (2011). Problems Confronting the Teaching of Clothing and Textiles in Tertiary Institutions. *International Journal of Educational Research and Development, 2 (1)* 53-62.

Arubayi, D.O. & Obunadike, J.C. (2011). Problems of Teaching and Learning Clothing and Textile in Senior Secondary Schools in Anambra State. *Nigeria Vocational Education Journal, 5 (2)* 113-119.

Arubayi, D. O. (2010). Students' Appraisal of the Quality of Instruction in Clothing and Textiles in Tertiary Institutions in Delta State. *An International Multi-Disciplinary Journal, Ethiopia*, 4 (3a*)* 195-205

Arubayi, D. O. (2014). The Place of Funding in the Teaching of Home Economics Programme in Nigeria. American Journal of Food Science and Nutrition Research, 1 (1) 7-11.

Azikiwe, U. (2012). *Standard in Tertiary Education: Capacity Building and Sustainable Development in Nigeria.* A Lead paper presented at the Annual National Conference of the Faculty of Education, Nnamdi Azikiwe University, Awka, Anambra State.

Nwazor, J,C. (2012). Capacity Building, Entrepreneurship and Sustainable Development, *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS)* 3 (1): 51-54

Mberengwa, L. (2004). Curriculum Change in Home Economics Education at Gweru Teachers College, Zimbabwe: *Journal of Family and Consumer Sciences Education, 22(2)* 17-23.

Ogwo, B. A. & Oranu, R. N. (2006). *Methodology in Formal and Non-formal Technical and Vocational Education.* Enugu: Ijejas and Publishers Company. Retrieved 20th August, 2012 from www.edugoogle.com

Omoniyi, N. (1999). The Relationship between Field Independent and Field Dependent Cognitive Styles and Academic Achievement in Clothing and Textile Subjects. *Journal of ANCOPSS 3(1)* 20-32.

Osifeso, G.A.T. (2004). Professional Obligations of Home Economics Towards a Better National Development in the 21st Century: In Noah, A.O., Shonibere, D., Ojo, A., Olajuwon T. (Ed.S.): *Curriculum Implementation and Professionalization of Teaching in Nigeria.* Lagos: A-Traid Associates, 305-314.

Quigley, C. Marshall, J.C., Deaton, C.C.M., Cook, M.P., & Padilla, M. (2011). Challenges to Inquiry Teaching and Suggestions for how to meet them. *Science Educator,* 20(1), 55–61.

Sarpong, G.D., Howard, E.K. & Amankwah, A. (2012). Teaching of Fashion and Textiles Studies in Ghanaian Tertiary Institutions. *International Journal of Innovative Research & Development,* 1(9) 472-485

Uko-Aviomah, E.E. (2005). Evolving a Dynamic Curriculum for Home Economics in Nigerian Schools. In: Oraifo, S.O., Edozie, G.C. & Ezeh, D. N. (Eds.): *Curriculum Issues in Contemporary Education. Book in Honour of Professor (Mrs.) Ebele Maduewesi.* Benin-City: DaSylva Influence Printers. Retrieved 20th August, 2012 from www.edugoogle.com

World Bank Report (2012). MSETTP Transition from School to Work; Issues and Policies Washington.

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Factors Influencing Food Consumption Patterns of the University of Ibadan Undergraduate Students, Ibadan, Oyo State, Nigeria

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Abstract

The study investigated factors influencing food consumption pattern of the University of Ibadan undergraduate students, Ibadan, Oyo State, Nigeria. Stratified sampling technique was used to select two male and two female halls of residence based on sex. One hundred and twenty one students (121) were interviewed through the use of questionnaire. Descriptive and inferential statistics were used to analyze the data. Majorities (50.4%) of the respondents were females and (60.3%) fell between the age ranges of 21- 25 years. Majority (93.4%) had their parent as their sources of allowance and 55.3% received allowance ranging from N5, 000 – N9, 999. Thirty seven percent(75%) of respondents consumed proteinous food. Only 1.7% consumed vegetables and fruits seven or more times. Ninety percent (90%) of them got nutrition information from their parents. Major constraints to adequate food consumption pattern of respondent were income (50%) and family size (48%). There was significant relationship between respondents' sex (x^2 =90.537, p= 0.000), religion (x^2=32.802, p= 0.000), family size (x^2= 112.923, p= 0.000), tribe (x^2 =201.709, p=0.000) and food consumption pattern.

Keywords: Factors, Food, Consumption, Pattern, Undergraduates.

Introduction

The consumption of specific food items and their combination in dishes and meals terns of give rise food consumption patterns of individuals. The pattern show large temporal and spatial differences, mainly caused by availability of food commodities, cultural aspects and economic factors (FAO, 2010). Diets evolve over time, and is influenced by many factors such as income, prices, individual preferences and beliefs, cultural traditions. Other factors are geographical location, environmental, social and economic factors. These interact in a complex manner to shape dietary consumption patterns. Research shows that there are has been major shifts in food consumption patterns throughout the world, even in the consumption of staple foods, towards more diversified diets (Popkin 2006). Accompanying the changes in food consumption patterns are considerable health related problems arising from failure to consume adequate diet required to meet the nutritional needs.

Some of the health related problems associated with inadequate consumption of adequate diet include diabetes, hypertension, heart diseases, kwashiorkor and stunted growth in children and adolescents. Story (2005) noted that nutrient needs are higher during adolescence than any other time in the lifecycle. Nutrition and physical growth are integrally related. Optimal nutrition is a requisite for achieving full growth potential. Failure to consume an adequate diet at this time can result in delayed sexual maturation and can arrest or slow linear growth. Research indicates that improving the awareness of nutritious meal choices and establishing long- term habits of healthy eating have a positive effect on cognitive memory capacity, increasing a student potential to process and retain academic information Neha and Devanshi 2012) . The level of nutrient requirement has been determined by the World Health Organization (WHO) and Food and Agricultural Organization (FAO 2002) . The basic minimum requirement figure has been found to be 65 grammes of protein and 250kcal of energy per capital intake of which is consumed otherwise, leads to a state of malnutrition which are associated with inadequate diet especially in adolescents. (WHO, 2003).

Most adolescent and young people have improper eating habits and tend to consume junk foods and ready-to-eat foods (Ibrahim, 2008). Over the years, students' consumption patterns have been found to be influenced by various factors such as religion, sex, tribe, income, and environment (Omonona and Agoi, 2007). The environment of an individual has made an impact on their consumption pattern. The common foods available in one environment may be scarce in another's. Most individuals buy their food from whatever is readily distributed in the nearest or within their environment. This situation causes variation in consumption patterns of individual.

According to Popkin (2006), there are differences in personal taste which might be due to custom, religion and beliefs. For example, some religions do not allow members to eat pork while some do not eat livestock such as snail because of their beliefs, even though the foods could be of benefit to individuals in one way or the other. Yu (2005) reported that the consumption pattern of the students depends on the university student's income. A personal consumption pattern is usually determined by the level income. Because the students have not yet established their careers, their income is very difficult to estimate, and in this circumstance, most university students' income is mainly from their parents, and this invariably determine their consumption pattern. Economic development is normally accompanied by improvements in a country's food supply and the gradual elimination of dietary deficiencies thus improving the overall nutritional status of the households and the entire country's population. (Jagoda, 2009).

The size of the household and its consumption cannot be overlooked in consumption pattern of students.(Delisle, 2009) It is possible that the more the number of persons in the family, the less adequate and balanced the food an individual student can afford and vice versa due to the allowance an individual student gets from home and this factor can affect on the individual food needs. However, there is dearth information on the factors influencing consumption patterns among undergraduate students of the University of Ibadan. It is against this background that this study was carried out.

Purpose of the study

The general purpose of this study was to investigate the food consumption patterns of University of Ibadan undergraduate students. Specifically the study determined:

(1) the frequency of food consumed in the study area
(2) reasons why students do not consume some foods available in their environment.
(3) Identify the sources of the respondents' up keep allowance.
(4) Determine the constraints militating against students accessibility to quality food on campus.

Research Question

The study answered the following research questions

(1) What is the frequency of food consumed in the study area?
(2) What are the reasons for not consuming some foods available in their environment?
(3) What the sources of the respondents' are up keep allowance?
(4) What are the constraints militating against accessibility to quality food on the campus?

Hypotheses

Two null hypotheses were formulated for the study, namely:

(1) There is no significant relationship between the personal characteristics of the respondents and their food consumption pattern.
(2) There is no significant relationship between constraints faced by the respondents and their food consumption pattern.

Methodology

Design of study: The study adopted a survey research design. It sought information from undergraduate students of the University of Ibadan who reside in the hostels.

Area of study: The study was conducted in the University of Ibadan, lbadan . University of Ibadan is located at Ibadan, the capital of Oyo state in the south-western part of Nigeria. It is the first citadel of higher education established in Nigeria in 1948 as College of the University. The University of Ibadan has two female undergraduate halls (Queen Elizabeth and Queen Idia halls) and six male undergraduate halls (Tedder, Kuti, Mellanby, Sultan Bello, Independence, Nnamdi Azikwe halls).

Population for the study: The target populations were all undergraduate students of the University of Ibadan who reside in the two female and six male halls of the University.

Sample for the study: Stratified sampling technique was used to stratify the halls into male and female halls. . There were 610 and 600 registered students in the selected female and male halls respectively. Two male halls were randomly selected from the six male halls available, they include Nnamdi Azikwe and Kuti halls while the two female halls available were selected namely Queens Elizabeth and Idia halls. The total number of students residing in Queen Elizabeth hall were 300, Queen Idia hall were 310 while 250 and 350 students resides in Nnamdi Azikwe and Kuti hall respectively. Ten percentage (10%) of the total number of one thousand two hundred and ten registered respondents from each halls of residence were randomly selected which gives the sum of one hundred and twenty one (121) respondents which was used as sample size for this study.

Table 1: The Numbers of Respondents Selected

Hall of residence	Population of Students in each hall of residence	10% of selected respondents
Queens	300	30
Idia	310	31
Namdi Azikwe	250	25
Kuti	350	35
Total	**1210**	**121**

***Instrument for data collection*:** The structured questionnaire which was developed based on the literature and research objectives was used to collect data for the study. The instrument was divided into two sections (A and B). Section A elicited information on the personal data, while section B answered questions 1, 2, 3, and 4 which were developed to correspond to the specific objectives.

The instrument was face-validated by two experts in Home economics unit of the Department of Agricultural Extension and Rural Development, University of Ibadan. The reliability of the instrument was tested using the split half method. The reliability coefficient of the instrument was 0.80

Data Collection and Analysis Technique
One hundred and twenty one copies of questionnaire were administered by hand to the students. Some were collected on the spot while others were collected on a later date. Data collected were analyzed using descriptive statistics which include frequencies, percentages and mean to describe the data collected. Chi-square was used to test the hypotheses.

Findings of the study

Personal characteristics of the respondents
Majority of the respondents (60.3%) fall between the ranges of 21-25 years, 20.7% falls between 15-20 years, 17.4% falls between 26-30 years and those with lowest range (1.7%) fall between 31-35 years. This implies that most of the respondents are still in their active age and they require adequate nutrients to be able to carry out their metabolic activities. On the basis of family size, 62.0% of the respondents had a family size above 5 people while only 38% had a family size of 1-5. This implies that member of the households members will tend to compete for limited resources within their reach which will also affect their food consumption pattern.

Table 1: Distribution of Respondents on the Frequency of Different Foods

	Frequency of Consumption per week									
Food Items	Not at all		1-2 times		3-4 times		5-6 times		7 or more times	
	F	%	F	%	F	%	F	%	F	%
Egg	11	9.1	45	37.2	38	31.4	23	19.0	4	3.3
Fish	20	16.5	26	21.5	30	24.8	26	21.5	19	15.7
Milk	16	13.2	35	28.9	28	23.1	18	14.9	24	19.8
Beans	23	19.0	44	36.4	22	18.2	15	12.4	17	14.0
Rice	11	9.1	14	11.6	23	19.0	28	23.1	45	37.2
Yam	35	28.9	54	44.6	18	14.9	7	5.8	7	5.8
Maize	34	28.0	57	47.1	17	14.0	9	7.4	4	3.3

Oil palm	21	17.4	27	22.3	31	25.6	16	13.2	26	21.5
Groundnut oil	13	10.7	27	22.3	34	28.1	18	14.9	29	24.0
Ugu	39	32.2	48	39.7	19	15.7	6	5.0	9	7.4
Cochorous	68	56.2	35	28.9	11	9.1	5	4.1	2	1.7
Bitter leaf	58	48.0	46	38.0	11	9.1	4	3.3	2	1.7
Orange	35	28.9	47	38.8	25	20.7	10	8.3	4	3.3
Pineapple	51	42.1	43	35.5	16	13.2	7	5.8	4	3.3
Pawpaw	58	47.9	38	31.4	16	13.2	7	5.8	2	1.7

Table 1 shows that most undergraduate students in the study area consume more of milk when compare to other protein sources. This could be as result of accessibility and availability of artificial milk. In addition, it was also revealed that a larger proportion (87.1%) of the respondents consume rice more than twice a week when compared to other carbohydrate source This shows that rice is becoming a staple food. Furthermore, most (75.1%) of the respondents consume groundnut oil more than twice a week to meet their fat and oil requirement. Since they consume rice, there is the need for groundnut oil in making stew the study also shows that most (67.8%) of the respondents consume ugu more than twice a week when compared to other vegetables. Also, 32.3% of the respondents consume orange more than twice a week to meet their vitamins requirement. However this low compared to daily vitamin requirement. In summary, the distribution showed that undergraduate students in the study area consume more of carbohydrate while a very few consume fruits.

Table 2: Distribution of respondents on reasons for not consuming some food items

	Reasons for not Consuming Food items									
Food Items	**Health Reasons**		**Not affordable**		**Not available**		**Culture**		**No response**	
	F	%	F	%	F	%	F	%	F	%
Egg	7	5.8	5	4.1	1	0.8	4	3.3	104	86.0
Fish	3	2.5	2	1.7	2	1.7	2	1.7	112	92.6
Milk	3	2.5	7	5.8	1	0.8	1	0.8	109	90.1
Beans	4	3.3	3	2.7	2	1.7	1	0.8	111	91.7
Rice	1	0.8	2	1.7	2-	1.7-	1	0.8	115	95.0
Yam	1	0.8	0	0.0	16	13.2	2	1.7	102	84.2
Maize	2	1.7	3	2.5	7	5.8	2	1.7	107	88.4
Oil palm	4	3.3	2	1.7	3	2.5	2	1.7	110	91.0
Groundnut oil	2	1.7	2	1.7	2	1.7	2	1.7	113	93.3
Ugu	2	1.7	5	4.1	13	10.7	1	0.8	100	82.6
Cochorous	2	1.7	3	2.5	29	24.0	2	1.7	85	70.2
Bitter leaf	2	1.7	8	5.0	22	18.2	1	0.8	88	72.7
Orange	1	0.8	4	3.3	14	11.6	2	1.7	100	82.6
Pineapple	2	1.7	4	3.3	17	14.0	2	1.7	96	79.3
Pawpaw	2	1.7	5	4.1	20	16.5	1	0.8	93	76.9

Table 2 shows that 24% of the respondents do not consume cochorous (ewedu) because it is not readily available, 5.8% of the respondents do not consume egg and beans for health reasons, 16.5 % do not consume pawpaw because it is not readily available.

Table 3: Distribution of respondents by sources of up keep allowance

Source of up keep allowance	Frequency	Percentage
Parents	113	93.4
Friends	1	0.8
Guardians	1	0.8
Business	2	1.7
Scholarship	4	3.3
Total	121	100

Table 3 shows the distribution of the respondents up keep allowance. Majority (93.4%) of the respondents got their up keep allowance from their parents while 0.8% got theirs from friends and guardians.

Table 4: Distribution on Constraints to Food Consumption Pattern

Constraints to food consumption pattern	Major Constraints		Minor Constraints		Not a Constraint	
	F	%	F	%	F	%
Finance	52	43.0	45	37.2	24	19.9
Family/ Background	51	42.1	50	41.3	20	16.5
Environment	51	42.1	35	28.9	35	28.9
Taste	49	40.5	41	33.9	31	25.6
Health	34	28.1	23	19.0	64	52.9
Nonchalant attitude	28	23.1	40	33.1	53	43.8
Age	15	12.4	13	10.7	93	76.8
Availability of food	10	8.3	19	15.7	92	76.1
Time available for cooking	14	11.7	73	60.8	65	54.1

Table 3 reveals that finance (43.0%), family background (42.1%), environment (42.1%) and taste (40.5%) were the major constraints faced by undergraduate students in the study area, preventing achieving adequate food consumption. on the other hand, time available for cooking (60.8%) and nonchalant attitude (33.1%) were minor constraints faced by the respondents. Interestingly students have time to prepare their foods.

Table 4: Chi- Square Analysis Showing the Relationship between Personal Characteristics of Respondents and Factors affecting Food Consumption Pattern

Variable	χ^2	df	p	Decision
Sex	90.537	3	0.000*	S
Age	0.008	1	0.928	NS
Religion	32.802	1	0.000*	S

Family size	112.923	8	0.000*	S
Ethnicity	201.709	3	0.000*	S

NS= Not Significant S= Significant *= Significant at 0.05 level

The result of the Chi-square analysis in table 4 shows that there is a significant relationship between sex, (χ^2 = 90.537, p= 0.000), religion (χ^2 =32.802, p= 0.000) family size (χ^2 = 112.923, p= 0.000), position in the family (χ^2 = 66.21, p= 0.000) ethnicity (χ^2 = 201.709, p= 0.000) are factors influencing food consumption pattern. This implies that sex, religion, family size, position in the family and ethnicity influences food consumption pattern. However, there was no significant relationship between respondents' age (χ^2 = 0.008, p= 0.928) and their food consumption pattern. This means that age of the respondents do not influence their food consumption pattern.

Table 5: Chi-Square Analysis showing the Relationship between the Constraints faced Respondents and Factors affecting their Food Consumption Pattern

Variable	χ^2	df	P	Decision
Finance	12.42	2	0.002*	S
Family background	15.39	2	0.000*	S
Environment	95.10	2	0.000*	S
Taste	7.20	2	0.027*	S
Health	22.33	2	0.000*	S
Nonchalant attitude	4.55	2	0.103	NS
Availability of food	4.23	2	0.121	NS
Time available for cooking	42.63	2	0.000*	S

NS= Not Significant S= Significant *= Significant at 0.05 level

Table 5 shows that there is significant relationship between finance (χ^2 = 12.42, p= 0.002), family background (χ^2 = 15.39, p= 0.000), environment (χ^2 = 95.10, p= 0.000) taste (χ^2 = 7.20, p= 0.000), health (χ^2 = 22.33 p= 0.000), time available for cooking (χ^2 = 42.63, p =0.000) and factors affecting food consumption pattern among undergraduate students. This implies that financial status, family background, environment, taste and time available for cooking have influence in food consumption pattern. However there is no significant relationship between nonchalant attitude of the respondents (χ^2 = 4.55, p= 0.103) availability of food (χ^2 = 42.63, p= 0.000) and factors affecting food consumption pattern

Discussion of Results

The findings of the study indicates that majority of the students were females, which implies that sex is one of the factors that influenced consumption pattern of the students. This agrees with the findings of Omonona and Agoi (2007), that the student's consumption pattern is influenced by their sex. Also most of the students are still in their active age, so they require adequate nutrients to be able to carry put their metabolic activities and increasing a student potential to process and retain academic information. (Story, 2005). . On the basis of family size, the respondents had a family size above 5 people. This implies that member of the households members will tend to compete for limited resources within their reach which will also affect their food consumption pattern. . This is in line with the study of Delisle, (2009) that the size of the household and its consumption cannot be overlooked in consumption pattern of students.

Table 1 shows that carbohydrates is the most frequently consumed foods by the students in the study area while only few consumed fruits and vegetables. This corroborated by Norman, (2014) that carbohydrates are an energy sources for the brain. However, most students consume sugar excessive sugar, causing increase in sugar level in the blood streams and also according to Mintah et al. (2012), who reported that there is inadequate fruit consumption among University of Ghana. Table 2 shows that the respondents do not consume cochorous (ewedu) because of it is not readily available, some do not consume egg and beans for health reasons, while do not consume pawpaw because it is not readily available, It can therefore be deduced from the findings that the major reasons why some food items were not consumed is as a result of health factors, availability and cost, This corroborates the findings of Hart (2005) that food consumption pattern can be influenced by some factors such as availability, health factors, and cost. It was also revealed that finance, environment and taste were the major constraint faced by the respondents in the study area.

The Chi square results also showed significant relationship between each of sex, family size, and position in the family, ethnicity and food consumption pattern. This is supported by Omonona and Agoi (2007) findings that over the years, students' consumption pattern has been determined to be influenced by various factors such as religion, sex, tribe, income, and environment. The study also showed financial status, family background, taste, and environment influenced the students' consumption pattern.

Conclusion

Based on the findings of this study, it has been shown that, the rate at which students consume some food items for good health is low. This is due to some factors influencing the food consumption pattern. These factors include; allowance, family size, religion, environment, taste, availability of foods while the age of the respondents do not influence the students consumption pattern. The main source of the students' up keep allowance is from their parents and the major constraint militating against accessibility to quality food on campus is finance. There is need for adequate up keep allowance in favour of the students' well- being, as this will improve their healthy eating habits which have a positive effect on their cognitive memory capacity. It will also increase student's potential to process and retain academic information.

Recommendation

The following recommendations are based on the findings of this study:

- Students should be given enough allowance by their parents, so that they can have enough money to purchase required foods for their wellbeing.
- Parent should also be encouraged to take into consideration their family size because it will affect the allowance of their children. The larger the family, the lower the allowance available to students.
- Students should not see environment as a major constraints to their food consumption pattern. They should

adapt to any environment they found themselves, while in terms of taste.

- There should be food nutrition awareness education on proper food consumption pattern especially on more consumption of fruits and vegetables.
- Fruits and leafy vegetables vendors should be allowed to sell within and around the hostels.

References

Ayse, B. (2012). Consumption and the Place of the Economy in Society: Houses and Household Durables in Republican Turkey. *Transitions in Domestic consumption and family life in Modern Middle East Houses in motion.* P113.

Delisle H. (2009). Dietary patterns and quality in West African immigrants in Madrid. *Nutrition journal. 8:*3 P3

F.A.O. (2010). Food and Agricultural Organization of the United Nations statistical databases. http:// faostat.fao.org

Hall J.N., Moore S., and Lynch J.W. (2009). Global Variability in Fruit and Vegetable Consumption. *American Journal of Preventive Medicine.* 36(5): 402- 409.

Ibrahim M. M., (2008). The change in food consumption pattern of male and female students of Tabriz University of Medical Science, after Entering University. *Medical Journal of Tabriz University of Medical Sciences.* 30 (1) 1.

.

Neha C. and Devanshi P. (2012).Food and Nutrition Security for Happiness and Satisfaction. Saving Humanity: Swani Vivekam and Swadhyay Mandal, Pp 229-232.

Mintah B.K., Eliason A.E., Nsiah M., Baah E.M., Hagan E. and Ofusu D.B. (2012). Consumption of Fruits Among Students: A case study of A public University In Ghana, *African journal of Fruit, Agriculture, Nutrition and Development*. 12(2): 5978-5993.

Omonona B.T. and Agoi G.A., (2007). An analysis of food security situation among Nigerian urban households: Evidence form Lagos State Nigeria. *Journal of Central European Agriculture.* 8 (3) 397-406.

Norman, P. (2014). Feeding the Brain for Academic Success: How Nutrition and Hydration Boost Learning. *Healthy Brain for life* Pp 1-5.

Popkin B.M., (2006). Global Nutrition dynamics: the World is shifting rapidly towards diet linked with non communicable diseases. *Journal of Public Health Nutrition.* 84(2): 289- 298.

Story M. (2005). *Nutritional requirements during adolescence. Textbook of adolescent medicine* Philadelphia: WB Saunders, Pp 75-84.

WHO (2003): Diet, nutrition and preventive of chronic diseases. Report of a joint FAO/WHO workshop on fruits and vegetables for health, 1-3 September, 2004, Kobe, Japan.

Yu Yuanpei, (2005), *Text Review of Classical Marxist Philosophy*, Beijing, Higher Education press

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Work-Family Conflict Indicators among Bank Workers in Enugu State

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Abstract

This study determined workers' level of strain-related work-family conflict based on location. One null hypothesis was tested at 0.05 level of significance. The population for the study consisted of 2021 bank workers in Enugu state. Two sets of instruments were used for data collection. They were: the adapted 6-item Strain-related Work-family Conflict Inventory (SRWFCI) and the Key Informant Interview Schedule (KIIS). Mean scores and student t-test were adopted for data analysis. Simple random sampling technique was used to draw sample for the study. Results revealed that bank workers experienced moderate level of strain-related work-family conflict. There is no significant difference in bank workers level of strain-related work family conflict based on location. Following from this, it was recommended among others that the management of the banking industry should try to adopt appropriate work-family conflict intervention strategy that will help bank workers in balancing their work and family demands.

Keywords: Stress, Strain, Work, Family, Conflict

Introduction

Prior to the industrial revolution, work and family domains were mutually connected to each other, bringing about life satisfaction among people living across the world. With the advent of the industrial revolution, work and family were severed into separate world, distinct in time, place and function. In Nigeria, the introduction of Universal Primary Education (UPE), in 1976 equipped women with basic education, provides them equal opportunities with men in the world of work (Ugwu, 2012). Aslam, Shumaila, Azhar and Sadaqat (2011) observed that women's involvement in work has significantly blurred gender and parenthood gap. This is because as women joined work, men adjusted themselves and incorporated more family responsibilities. This brought about continuous change in work and family structures and these changes create work-family conflicts that have negative health implications for workers (Ruppannar and Huffman, 2014). Bundes and Ministerium (2008) had observed that involvement in dual roles (work and family) gives rise to work-family conflict in which work and family roles are in disagreement, spilling over from one arena to the other affecting the health and well-being of employees who juggle between work and family roles.

Research on work and family-role conflict suggests that demands from one role are incompatible with the demands from the other role, which inhibits functioning in the other role (Edwards and Rothbard, 2000; Hill, 2014; Livingston, 2014). According to Edwards and

Rothbard (2000), work-family conflict is a special form of inter-role conflict with pressures from one role incompatible with pressures from another, making participation in both difficult. Aslam, Shumaila, Azhar and Sadaqat (2011) described work-family conflict as an extent to which work and family-related responsibilities interfere with each other. They posited that work-family conflict could be bidirectional, such that work can interfere with family (work-to-family conflict) and family can interfere with work (family-to-work conflict). This bidirectional relationship according to Byron (2005) describes the distinct but reciprocally related nature of work-family conflict. The present study defines work-family conflict as an inter-role disagreement in which work and family are incompatible, bringing about conflict, stress and strain among individuals who juggle between work and family roles.

Studies have found that majority of the workers working in various organizations across the world are experiencing health-related problems of work-family conflict as a result of their inability to balance work and family roles (Zhao, Mallila and Ngan, 2014; Ozutku and Altindis, 2014). According to Panatik, Rjab, Shah, Rahman,Yusoff and Badri (2012), when work and family demands are not well balanced, it brings about stress-related work-family conflict, which in a severe state gives rise to strain. Researchers had earlier viewed the strain-related work-family conflict from a demand perspective, observing that structural, social and psychological demands from work and family domains could contribute to employees' experiencing strain-related work-family conflict especially, among employees who spent more time on one domain at the expense of the other (Edward and Rothbard, 2000; Livingston, 2014). Work-family strain experience manifests in workers' feeling of outburst aggression to co-workers and family members, feeling of headache, irritability (Byron, 2005), chest pain, back ache, heart pains, feeling of negative emotions, and dull mood (Ozutku and Altindis, 2014).

Many theoretical frameworks have been advanced to explain how work-family conflict gives rise to stress and strain among workers. One of such theories includes the Conservation of Resources (COR) theory by Hobfoll (1989). This theory posits that inter-role conflict leads to stress because resources are lost in the process of trying to balance the pressure coming from work and family domains. The resources include time, money, conditions, personal characteristics and energies (Grandey and Cropanzano, 1999). This study anchors on this theory because when workers are performing dual roles (work and family roles) they are bound to lose their resources. This loss of resources results to feelings of affective state of being, exposing workers to strain-related work-family conflict experience.

Study on strain-related work-family conflict among bank workers therefore, becomes important since workers in Nigerian banking industry work extra hours and on weekends in an attempt to meet up with the demands of the banking job (Philips, 2007). Philips noted that banking job is associated with high job demand and little control over time. Adeyemi (2009) observed also that Nigerian bank workers suffer a great deal of stress associated with their job before and more after the introduction of consolidation programme in the Nigerian banking sector, which took place in

January 1st, 2006. The programme brought about so many challenges to banking sector such as the minimum capital base of ₦25 billion as benchmark for the capitalization of banks and the introduction of the Information and Communication Technology (ICT). With the above challenges according to Adeyemi, the management and workers of the banks became exposed to undue work pressure with very little attention to what goes on in the family.

Following from this, it becomes logical to expect that Nigerian bank workers experience strain resulting from their inability to balance their work and family demands. This study therefore, focused in examining the strain-related work-family conflict experienced among bank workers who worked in different job locations (urban and semi-urban). Cubillas (2007) defined urban location in Nigerian context as a location characterized by higher population density and vast human features in comparison to areas surrounding it. He defined semi-urban location as a residential location on the outskirts of a city or town with strong presence of non-farm economy. This study adopted the existing Enugu State government classification of urban and semi-urban location which appeared to be based on the above definitions by Cubillas (2007).

Ford, Heinanend and Langkamar (2007) carried out a survey study on the levels of work-family strain experienced by workers in different locations in South-western United States. Their result indicated that strain-related work-family conflict occur in a cluster and that industrialization, technological development and increase in population that is associated with urbanization subjected workers who worked in the urban locations to experience more strain than those who worked in the semi-urban locations. Ozutku and Altindis (2014) also found significant difference in the level of strain experienced by workers in different locations.

In contrast, Spectar (2004) found from the study of work-family stress and its adverse health implications among Chinese workers that work-family stress appeared to relate to increased job dissatisfaction and reduced psychological health, bringing about strain-related work-family conflict among workers who worked in both urban as well as semi-urban locations at the same level. Similarly, Dunnette (2008) observed that across different locations (urban and semi-urban) in Germany, the level at which workers experienced strain-related work-family conflict were the same. Bheer (1992) had earlier observed that role conflict is an aspect of stress and that work-family stress is very pervasive, affecting workers across different regions and locations. According to Bheer, workers who performed dual roles in urban locations are affected by work-family stress and strain in the same way as it affected workers in the semi-urban locations.

The above reviewed studies indicated conflicting findings. The studies also were conducted in United States and other Western countries who shared comparable cultural values. Furthermore, only few studies on work-family conflict had been conducted using Nigerian sample and none of such studies looked into the strain-related work-family conflict among workers in service-oriented organisation as in bank. Following from these, it becomes pertinent that study be carried out in this area using Nigerian sample and bank workers in particular. Such Nigerian based study is important to verify the validity of some of the findings generated across cultures.

Purpose of the Study

The major purpose of this study was to investigate the work-family conflict of bank workers in Enugu state. Specifically, the study:

1. determined the strain-related work-family conflict indicators experienced by bank workers.
2. determined the strain-related work-family conflict indicators experienced by bank workers in urban and semi-urban locations.

Research Questions

1. What are the strain-related work-family conflict indicators experienced by bank workers?
2. What are the strain-related work-family conflict indicators experienced by bank workers in urban and semi-urban locations?

Hypothesis

1. There is no significant difference in the mean responses of bank workers on the indicators of strain-related work-family conflict based on location ($P<0.05$).

Methodology

***Research Design*:** The study adopted the descriptive survey design.

***Area of the Study*:** The study was carried out in Enugu State Nigeria, which comprised three senatorial zones, namely Enugu North, Enugu East and Enugu West. Enugu state is the capital of old Eastern region with very high concentration of banks in urban and semi-urban locations of the state. The residents of urban and semi-urban locations of the state are predominantly civil servants and traders who embarked on banking transactions regularly. In view of this, Enugu State was adjudged one of the most suitable areas for this study.

***Population for the Study*:** The population for the study comprised 2021 bank workers in Enugu state made up of 791 and 1230 workers in semi-urban and urban locations, respectively (Central Bank of Nigeria Report, 2008). Of the total number of workers in the banks in Enugu state, 1142 of them are males while 879 of them are females

***Sample and Sampling Techniques*:** The sample for the study consisted of 550 workers (317 workers from urban and 233 from semi-urban locations) of banks in Enugu state selected using simple random sampling technique. This sample size was in line with the suggestions of Cohen, Marion and Marrison (2008) to the effect that when the population of a study is above 2000, the sample size, at 95% confidence level should be between 333-749 participants.

Sample was drawn from the four sections of the banks in urban and semi-urban locations. In urban location, a total number of 120 workers were drawn from operations sections, info-tech 56, marketing 75, and internal control 66. In semi-urban locations, 103 participants were drawn from operations, 16 from info-tech, and 62 from marketing while 52 were drawn from internal control. Among the workers sampled in the study from both urban and semi-urban locations, 267 are males while 210 are females, 227 of them were senior workers while 250 of them were junior workers.

The researcher adopted multi-stage sampling procedure in drawing the sample for this study. Four stages were involved: The first stage involved categorization of banks according to locations (urban and Semi-urban). A total number of 85 banks were in the urban location, while 27 banks were in semi-urban location. The second stage involved the selection of banks used for the study from the urban and semi-urban locations. In this case, all the 27 banks in the semi-urban location were used for the study because the number was manageable. However, in the urban location, 27 different banks were selected using simple random sampling.

The third stage was stratification of banks according to the four sections (operations, info-tech, internal control, and marketing). The fourth stage was distribution of questionnaire to the workers in the four sections of the banks using simple random sampling.

***Instrument for Data Collection*:** Two instruments were used for the study. These were (i) the Strain-related Work-Family Conflict Inventory (SRWFCI) questionnaire that comprised two sections, Sections A and B. Section A of the questionnaire sought information on the location where workers performed their job. Section B consisted of 6 item Strain Inventory (SI) adapted from Carlson, Kacmar and Williams (2000). The instrument was scored using a four point scale of Strongly Agree (4), Agree (3), and Disagree (2) to Strongly Disagree (1). (ii) the Key Informat Interview Schedule (KIIS). The KIIS consisted of 10 items which were used to gather information regarding the nature of work-family conflict which workers experienced.

Draft copies of the instruments were sent to five lecturers in University of Nigeria, Nsukka who critically examined them in terms of appropriateness and suitability to the purpose of the study. The face validity was determined through the judgment of these five experts. In order to establish the reliability of the SRWFCI, 53 copies of the instrument were administered to bank workers of Union Bank and Diamond Bank in Abakaliki, Ebonyi State, Nigeria. The data were analysed using Product Moment Correlation coefficient, which determined the split-half reliability of the instrument. The split-half reliability of .77 was obtained. This was corrected with Spearman-Brown formula, r = .80 to estimate the reliability of the instrument.

***Data Collection Techniques*:** In order to facilitate the distribution of the questionnaire, the researcher raised a letter for the branch managers. A total number of 550 copies of the SRWFCI were distributed to bank workers in urban and semi-urban locations in Enugu State. Three hundred and seventeen copies were distributed in urban while 233 were distributed in semi-urban locations out of this number distributed, 477 valid copies of the questionnaire were collected. This yielded a return rate of 86.73 per cent. After the researcher had collected the questionnaire, Key Informant Interview schedule was conducted with five managers and five sectional supervisors of the various banks under study.

***Data Analysis Technique*:** Mean, Standard Deviation and Student t-test were used to analyse data on strain-related work-family conflict experienced by bank workers. The research questions were answered using mean and standard deviation, while the hypothesis was tested using student t-test. Following from this, all the mean scores that was within the limit of 1.00 – 1.49 was adjudged as very low level, 1.50-2.49 was adjudged as low level, while 2.50 – 3.49 was considered moderate level and 3.50 –

4.00 was considered high level strain. The responses obtained from the KIIS helped complement the results obtained from the questionnaire.

Findings

The following findings were made:

Table 1: Mean Responses and t-test Analysis on the Work-family Conflict Indicators among Bank Workers in Enugu State

S/No	Strain-related Work-family Conflicts Indicator	$\overline{X}_1$	$\overline{X}_2$	Xg	t-cal	Remark
1.	Get home from work, too tired and anxious to participate in family activities/responsibilities.	2.96	3.07	3.02	-.302	NS
2.	Emotionally drained when got home from work and cannot contribute to family roles.	2.47	2.57	2.52	-1.311	NS
3.	Too stressed by pressure at work to engage in activities of interest.	2.75	2.86	2.81	-1.451	NS
4.	Home-related stress keeps one preoccupied with family matters at work.	2.01	2.33	2.19	-3.754	S
5.	Continuous stress from home related responsibilities prevents concentration at work.	2.03	2.09	2.07	-684	NS
6.	Tension and anxiety from family life weakens one's ability to do job.	1.92	2.18	2.07	-2.842	S
	Overall mean	**2.36**	**2.52**	**2.45**	**-1.115**	**NS**

N1 = No of semi-urban bank workers = 210; N2 = No of Urban bank workers 267; $\overline{X}_1$ = mean responses for semi-urban; $\overline{X}_2$ = mean responses for urban; Xg = ground mean/means of both group; P = 0.05; critical t = 1.960; df = 475.

Table I shows the Mean scores and t-test analysis of bank workers on their level of strain-related work-family conflict indicators experienced in urban and semi-urban locations. The respondents indicated that "when they got home from work they were too tired and anxious to participate in family activities/responsibilities" ($\bar{x}$ = 3.02) "they were emotionally drained when they got home from work that it prevented them from contributing to their family" ($\bar{x}$ = 2.53) and "Due to all the pressures at work, sometimes when they came home they were too stressed, to do the things they enjoyed" ($\bar{x}$ = 2.81) had mean scores which were within the limit of 2.50 – 3.49 showing that the bank workers were moderately strained. Furthermore, they reported that "Due to stress at home, they were preoccupied with family matters at work" ($\bar{x}$ = 2.19), "Because they were stressed from family responsibility they had a hard time concentrating on their work" ($\bar{x}$ = 2.07) and "Tension and anxiety from their family life weakened their ability to do their job" ($\bar{x}$ = 2.07) had mean scores within the limit of 1.50 – 2.49, indicating that the bank workers were lowly strained. The overall mean ($\overline{X}$ = 2.45) which was within the limit of 2.50 – 3.49 indicated that the bank workers were moderately strained.

The Table revealed an overall Mean ($\overline{X}$) of 2.36 for bank workers who worked in the semi-urban locations. This was within the limit of 1.50 – 2.49 indicating that bank employees who worked in the semi-urban locations experienced low level of strain-related work- family conflict. An overall Mean of 2.52 was reported for workers who worked in the urban location. This was within the limit of 2.50 – 3.49 indicating that bank workers who worked in the urban location experienced moderate level of strain-related work-family conflict.

The Table also showed that generally, workers in the urban location did not differ significantly from those in the semi-urban locations in their levels of strain-related work-family conflict indicators experienced (t=475,-.115, p>.05). The null hypothesis was therefore adopted as stated. Specifically, however, while the employees' responses did not show any significant difference across most of the questionnaire items, they were significant on two.

Discussion

Result indicated an overall moderate level of strain-related work-family conflict among bank workers in Enugu state. The result supports Edwards and Rothbard (2000), Hill (2014) and Ruppannar and Huffman (2014) who found from their various studies that when workers were not able to balance their work and family roles, it gave rise to strain-related work-family conflict experience. The finding also supported the Conservation of Resources theory (COR) by Hobfall (1989), which this study was anchored. The COR theory holds that the inter-role conflict leads to stress because resources like time and energy are lost in the process of trying to balance the pressure coming from work and family domain. The finding of the Key Informant Interview Schedule was equally in agreement with the quantitative data generated from the questionnaire. It showed that their work does not allow them time to perform their family demands. As such, when they fail to perform their responsibility in the family, it spills over to the work place, causing conflict between the two domains.

The finding could be explained on the basis that banking jobs are stress laden with workers being overloaded with work-related activities. In the banking industry, for instance, workers work longer hours than workers in the conventional civil service because when bank transactions are over, workers are expected to stay behind until the accounts of the day are balanced. In addition, the job is attention demanding and energy sapping as any mistakes or wrong calculations may cause gross financial distress to the job holder. The daily stress associated with the job causes workers some level of strain since such jobs do not provide the workers the opportunity of attending to family demands.

On the issue of workers' strain-related work- family conflict based on job location, result showed that bank workers who worked in the semi-urban locations reported low level of strain-related work-family conflict, while their counterparts in the urban locations reported moderate level of strain-related work-family conflict. However, the overall t-test result indicated no significant difference between bank workers in the semi-urban and urban locations. This finding agreed with Spectar (2004), Dunnette (2008) and Ozutku and Altindis (2014) observations which pointed to the fact that there were no significant differences in the levels of work-family strain experienced between workers who worked in semi-urban and those who worked in the urban locations. The result contradicted the findings by Ford, Heinan and Langkamar (2007) and Ryan, Sponseller, Stuart and Fisher (2008), who in their various findings observed that workers in the urban locations experienced more strain-related work-family conflict than those in the semi-urban locations. The reason for this finding could be as a result of the introduction of new technology such as GSM phone and other Information and Communication Technology (ICT). This has bridged the gap between work and home domains such that workers are kept busy and connected at all time with their families. The bridging of the physical distance between work and home domains with the aid of some technological innovations has resulted in bank workers carrying work home as well as doing family related activities in the office irrespective of the location. Furthermore, the non-significant difference could be explained on the premise that all bank workers perform similar work roles and family responsibilities. For instance, all workers, irrespective of their locations, are expected to show high level of commitment to job maintain high level of performance, and also perform some family roles as ascribed to them by culture. Consequently, workers in both locations are bound to experience similar strain-related work-family conflicts.

Conclusion

The finding of the study indicated that bank workers reported moderate level of strain-related work-family conflict. The finding also showed that workers who worked in the urban locations experienced moderate level of strain-related work-family conflict while their counterparts in the semi-urban locations experienced low level of strain-related work-family conflict. However, the result revealed no significant difference in the levels of strain-related work-family conflict experienced by bank workers who worked in urban and those who worked in semi-urban locations. This then implies that Nigerian bank workers are faced with strain-related work-family conflict in both the urban and semi-urban locations. It equally means that they do not apply appropriate mitigating measures in balancing their work and family demands.

Recommendations

It was therefore recommended that:

1) Management of the banking industries should introduce proper work-family conflict mitigating measures such as, social support measures at home and workplace, respite, work place policies designed to augment family life, work shift, and long-term care insurance. This will help the workers in balancing their work and family demands.
2) An enhanced salary structure and allowances are also necessary for the bankers since it will help them in cushioning the effects of their work-family stress and strain experiences.
3) More workers are needed in the banking industry to afford the bankers working in both the urban and semi-urban locations the opportunity for work shift, flexible work scheduling and respite.

References

Adeyemi, A.S. (2009). Consolidation programme in Nigeria. A paper presented at the 9th Annual Monetary Policy

Conference of Central Bank of Nigeria, Abuja.
Aslam, R., Shumaila, S., Azhar, M., & Sadaqat, S. (2011). Work-family conflict: relationship between work-life conflict and employee retention. *Journal of Research in Business, 1*(2), 18 – 29.
Bheer, T. A. (1992). *Psychological stress in the workplace.* London: Routledge.
Bundes, S., & Ministerium, F.G.(2008). Sources of conflict between work and family roles. *The Academy of Management Review, 10, 76-88.*
Byron, K. (2005). A meta-analytical review of work-family conflict and its antecedents. *Journal of Vocational Behaviour, 67,* 169 – 198.
Carlson, D.S., Kacman, K.M., & Williams, L.J. (2000). Construction and initial validation of a multidimensional measure of work-family conflict. *Journal of Vocational Behavior, 56*(2), 249 – 276.
Central Bank of Nigeria, (2008). Annual report. Abuja: Nigeria.
Cohen, L., Manion, L., & Morrison, K. (2008). *Research methods in education.* Rouledge: New York.
Cubillas, A. U. (2007). A glossary of terms. *Congressional Research Service, 15,* 261-267.
Dunnette, M.D. (2008). Dealing with conflict. *Industrial & Organisation Psychology. 5*(3), 143 – 146.
Edwards, J.B., & Rotherbard, N.P. (2000). Mechanism linking work and family: Clarifying the relationship between work and family constructs. *Academy of Management Review, 25* (1), 178 – 199.
Ford, M.T., Heinan, B.A., & Langkamer, K.L. (2007). Work and family satisfaction and conflict. A meta-analysis of cross-domain relations. *Journal of Applied Psychology, 92,* 57 – 80.
Grandey, A.A., & Cropanzano, R. (1999). The conservation of resources model applied to work family conflict and strain. *Journal of Vocational Behaviour, 54,* 350 – 370.
Hill, E. J. (2014). Work-family facilitation and conflict: working fathers and mothers, work – family stressors and support. *Journal of Family Issues, 35*(8), 793 – 819.
Hobfoll, S.E. (1989). Conservation of resources: A new attempt at conceptualising stress. *American Psychologist, 44*, 413 – 524.
Livingston, B.A. (2014). Bargaining behind the scenes: spousal negotiation, labor and work-family burnout. *Journal of Management,* 40(4), 949-977.
Ozutku, H., & Altindis, S. (2014). The relations between work intensity and work-family conflict in collectivist culture: evidence from Turkish Health Care Professionals. *Journal of Health Management,* 16(1), 361 – 382.
Panatik, S.A. B., Rojab, A., Shah, I., Rahman, H. A., Yusoff, R.M., & Badri, S. B. (2012). *Work-family conflict, stress and psychological strain in Higher-Education. International Conference on Education and management Innovation.* LACSIT Press; Singapore.
Philips, M. (2007). *Ancient Rome on five dinarii a day*. New York: Thames & Hudson Ltd.
Ruppanar, L., & Huffman, L.M. (2014). Blurred boundaries: gender and work family interference in cross-national context. *Journal of work and occupations,* 41(2), 210 – 236.
Spectar, P.E. (2004). Cross-national comparative study of work-family stressor, working hours. And well-being. *Personnel Psychology, 57*(3), 342 – 367.
Ugwu, D.I. (2012). Sources of work-family conflict of professional women in a Nigerian sample: Health implications. *International Journal of Educational Research, 11(1)*, 194 – 202.
Zhao, X.R., Mallila, A.S., & Ngan, N.N. (2014). The impact of frontline employees' work-family conflict on customer satisfaction: the mediating role of exhaustion and emotional displays. *Cornell Hospitality Quarterly,* 55(2), doi10. 1177/1938965517172

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Attitudes and Stereotype Belief on Learning Home Economics at the Basic Education Level in Botswana

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Abstract

The major purpose of this study was to determine factors influencing learning Home Economics (HE) in Botswana. A total of 477 Form 3 students (F3Ss) and 424 standard 7 pupils (S7Ps) were randomly selected for the study. Questionnaire and focused group discussion were used for data collection. Data were analysed qualitatively and quantitatively using Pearson product moment correlation, Chi-square; percentages and frequencies. Major findings indicated that student's willingness to learn HE is higher among F3Ss. Irrespective of class level; students significantly have a positive attitude towards willingness to learn HE. Results also indicate that the lesser students stereotype beliefs, the more willing they are towards studying HE irrespective of class level. Skilled human and material resources are highly in need for empowering HE among others. Recommendations were made towards effective teacher preparation; provision of quality material resources and making HE a core subject.

Key words: Attitude, Basic Education, Home Economics, Stereotype, Beliefs.

Introduction

Home Economics Education(HEE) seems threatened and losing its visibility and position in the curriculum as reflected in enrolment and performance at the Junior Certificate Examination (JCE) level in Botswana and other countries (Matsela, 2007; Ogwu & Ogwu, 2010a; Werhan, 2007). Home Economics is taught as an elective subject under Creative and performing Arts at the primary school level without assessment in Botswana. At the Junior Secondary school level, it is examined and taught holistically as an elective subject. At the senior secondary school level, it is also examined and taught as an elective subject but separated into different segments (Food & Nutrition, Clothing & Textile, and Home Management). As a vocational oriented subject with entrepreneurial skills, HE could be used as a strategy to achieve sustainable future. According to United Nations (2005), education without basic skills and knowledge lack the tools essential for breaking the poverty cycle. Researchers have shown that HEE is an area endowed with valuable entrepreneurial skills and knowledge relevant to everyday living of individual, family and community irrespective of sex; with a wide variety of potential career paths such as: Food and nutrition, fashion and design, hospitality and management, to name but a few (Albert, 2005; McGregor, 2006; Street, 2006) which has implications for self-reliance and self employment towards sustainable future among youths. In western world, this problem has been attributed to marginalization and stereotype (Albert, 2005; Werhan, 2007); teacher shortage in HE (Pendergast, 2007).

A good deal of researchers has identified factors such as: attitude, (Gable & Roberts, 2009); human material resources (Ogwu, & Ogwu 2009) as influencing teaching/learning of HE. In recent years, research has focused on HE curriculum at the higher level (Street, 2006); sustainability in HEE (McGregor, 2005, 2006; IFHE, 2003); gender inequalities in HE (Ogwu & Nenty, 2006; Tinklin, Croxford, Ducklin & Frame, 2005); stereotype belief practices in the classroom as perceived by post primary school teachers in Nigeria (Ifegbesan, 2010); female negative perception about studying advanced level science (Pinias & Matswetu, 2013) and female poor interest in physics (Buabeng, Ampiah & Quarco, 2012). However, from empirical knowledge gathered, these perceptions have been limited to teachers and higher schools only. The root cause of the problem from learners' perspectives has not been established in Botswana at the foundational level of education to refute or support these findings. The existence and achievement in a subject depends on learners' willingness to continue with it. It also depends on individuals mind set, interest or attitude towards that particular subject which invariably leads to stereotyping or gender gap (Jensen & Owen, 2013).

Attempt to strengthening HE education has been made by inclusion, upgrading and integrating technology into HE to attract and support learning without discrimination(Ifijeh, & Osayande, 2011; Mendoza & Ikezaki, 2006; Ogwu & Ogwu, 2010b); retraining existing teachers through special programs to keep abreast with changes and innovations in HE (IFHE, 2003; U.K Government, 2006); making the subject compulsory at the elementary level in order to stimulate and sensitize learners (Street, 2006); giving attention to indigenous knowledge, to help students explore their own environment (Pepall, 2007). Teacher education in HE was also reported as a priority in Finland (Street, 2006). These suggestions were mainly limited from teachers' perspectives neglecting learners whose voices were supposed to be heard especially at the lower educational levels.

As one of the country's Vision 2016 - pillars is tailored to self-reliant and developed nation, this study was conducted to examine students attitude and stereotype beliefs towards the learning of HE in order to determine the implication this would have on attaining the vision of self-reliance and sustainable development in Botswana. Home Economics if neglected, could lead to deterioration of family life with increase in divorce rate, poor environmental sanitary life, poor feeding habits, poor clothing habits, ill health among others that are endemic in the society today.

Findings from this study will bring empowerment and improvement to the system and add to the pool of literature as well as theory and practice in HEE. It would also inform and enhance decision makers such as: policy makers, professionals in HE related areas, curriculum developers, the government about the state of HE education in order to contribute in areas found lacking towards the actualization of Vision 2016 and beyond in Botswana.

Purpose of the Study: The purpose of the study was to determine the extent to which stereotype beliefs and attitudes of students influenced their willingness to learn HE at the Basic Educational Level (BEL) in the South Central Region (SCR) of Botswana. Specifically, the Study determined:

1. the extent to which attitude and stereotype beliefs significantly influenced students' willingness to learn HE irrespective of their class level at the BEL in Botswana.
2. ways of strengthening HEE towards sustainable future in Botswana.

Research Questions

1. What is the extent of agreement among students' on their willing to learn HE?
2. To What extent do students' attitudes agree towards their willingness to learn HE?
3. To what extent do students' stereotype beliefs agree towards their willingness to learn HE?
4. How can HEE be strengthened towards sustainable future in Botswana?

Research Hypotheses

The following null Hypotheses were tested at 0.05 level of significance.

Willingness to learn HE in future does not significantly depend on the following:

H_{01}. School level

$H_{02.}$ Students' attitude to learning HE

H_{03} Students' stereotype belief

Methodology

***Area of Study*:** The area of study covers the whole of South Central Region (SCR) of Botswana which is largest out of four regions in Botswana. It is made up of four Districts: Gaborone, Kgatleng, Kweneng and Southeast. This area was chosen because of the size and the endemic recorded poor performance of students in HE in this particular region among others.

A lot of factors such as human and material resources, curriculum, among others could be attributed to students willingness to study Home Economics but this was delimited to only Attitudinal and stereotype beliefs factors influencing students willingness to study HE base on parents, instructors, peers and oneself attitude.

***Design of Study*:** An exploratory survey research was used to examine respondents perspectives on why and how about Home Economics Education at the BEL in SCR of Botswana. This design was used because of the large sample involved. It was also used because of the structured nature of the questionnaire.

***Population of the Study*:** The population of study consists of 12,657 Standard 7 pupils from 24 out of 163 Government Primary School, as well as 4,510 Form 3 students from 24 out of 57 Community Junior Secondary Schools in SCR of Botswana (Central Statistics Office, Botswana (CSOB), 2007). This population was chosen because they are the end products of the Basic Education Programme. It is believed that substantial information would be gotten from them regarding their willingness to study or continue with HE education.

***Sample for the Study*:** A sample of 432 Standard 7 pupils (S7Ps) and 480 Form 3 Students (F3Ss) were sampled from the stated population using a simple random technique by lottery method among selected schools with their class register. This gave every member an equal chance of being selected into the study from each stream. Eighteen S7Ps and twenty F3Ss from each school were chosen among the three streams consisting of S7 Ps and F3Ss.This is because they had been in the system for the entire program duration; and as such would be able to respond to questions effectively. Furthermore, six members of the sampled students were subjected to another simple random sampling and used for the focus group interview. All together making 144 students from each class level used.

***Instrument for data Collection*:** A 4-point questionnaire on Students Willingness to Learn Home Economics (QSWLHE) was used. The Questionnaire was made up of two parts (A & B) comprising of A as demographic information of students based on school, gender, and location.

The questionnaire was face validated for internal consistency by three experts from Departments of Measurement and Evaluation as well as Home Economics, University of Botswana.

A focused group discussion guide was also developed and used for data collection.

***Data collection Method*:** Data was personally collected by hand to ensure effective returns. The help of the class teachers were solicited in order to monitor returns. Ethical issues were observed to ensure data collection. This was done during the beginning and end of the school term to avoid disruption of normal lesson. Data was collected based on appointment from each school head. Out of 432 of questionnaire distributed to S7Ps, 424 were collected given a percentage return of 98%; and out of 480 questionnaires distributed to F3Ss of HE, 477 were collected given a percentage return of 99%.

A focused group discussion was organised for the students for five minutes after retrieving the questionnaire with just an item question on how to strengthen HE education towards sustainable living. Their discussions were recorded for ease of analysis with a tape recorder.

Data Analysis Technique: Data were analysed using frequency counts and percentages to answer the questions. The hypotheses were analysed using Pearson product-moment correlation as well as Chi-Square. The focused grouped discussion data were organized and summarized.

Findings of the Study

The following findings were made based on the research questions and hypothesis:

Research Question 1: What is the extent of agreement among students' on their willingness to learn HE?

Table 1: Extent of students' agreement on willingness to learn HE

Willingness to learn HE	**Standard 7 Pupils (n=424)**				**Form 3 Students (n=477)**			
	A		**D**		**A**		**D**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Am willing to enroll into HE class.	284	67.0	140	33.0	362	75.9	115	24.1
I shall discontinue with HE after this level.	144	33.9	280	66.1	122	25.6	355	74.4
Am willing to enroll in any HE activities outside the school setting.	286	67.5	138	32.5	360	75.8	117	24.2
Am willing to enroll into HE subject at higher level.	284	66.9	140	33.1	360	75.8	117	24.2

Table 1 shows that more than 67% of standard 7 pupils and 75% of Form 3 students agreed to the willingness to enroll in HE class; enroll in any HE activities outside the school setting and enroll into HE subject at higher level. However, very few of standard 7 pupils (34%) and 26% of Form 3 students agree to discontinue with HE education after their present educational level.

This result indicates that students to a high extent agreed to their willingness to learn HE up to any level.

Research Question 2: To What extent do students' attitudes agree with their willingness to learn HE?

Table 2: Extent to which students' attitude agree with their willingness to learn HE

Items on students Attitude to learn HE	Standard 7 Pupils (n=424)				Form 3 Students (n=477)			
	A		D		A		D	
	n	%	n	%	n	%	n	%
Am interested in HE as a subject	331	78.1	93	21.9	466	97.7	11	2.3
HE is very useful to me.	329	77.6	95	22.4	470	98.6	7	1.4
I prefer other subjects to HE	208	49.1	216	50.9	184	38.6	293	61.4
I enjoy HE as a subject in my school.	267	63.0	157	37.0	416	77.3	61	12.7
My teacher makes me like HE.	115	27.1	309	72.9	295	61.9	182	38.1

Table 2 indicate that more than 70% of standard 7 pupils and more than 97% of Form 3 students are interested in HE because of its usefulness. A huge number (63%) of standard 7 pupils and 77% of Form 3 students also agreed to enjoy the subject in their schools. This signifies a positive attitude to learning HE. However, 73% of standard 7 pupils, and 38% of Form 3 students disagreed to liking HE due to their teachers.

This result indicates that student's positive attitude towards HE which might likely influence their willingness to learn the subjects.

Research Question 3: To what extent do students' stereotype beliefs agree with their willingness to learn HE?

Table 3: **Extent of students' stereotype beliefs agreement on their willingness to learn HE.**

Items on Stereotype beliefs of students	Standard 7 Pupils (n=424)				Form 3 Students (n=477)			
	A		D		A		D	
	n	%	n	%	n	%	n	%
HE is a subject for girls only.	106	25.0	381	75.0	74	15.5	403	84.5
Boys are not encouraged to enroll in HE.	108	25.4	316	74.6	75	15.7	402	84.3
Girls only should learn HE in schools.	107	25.3	317	74.7	83	17.4	394	82.6
Boys prefer other subjects to HE.	234	55.2	190	44.8	288	60.4	189	39.6
Girls generally possess HE skills	266	62.9	158	37.1	354	74.3	123	25.7

than boys.

Table 3 shows that 75% of standard 7 pupils and more than 80% of Form 3 students disagreed to stereotype belief statements that HE is for girls only; boys are not encouraged to enroll in HE; girls only should learn HE in schools. Further results are shown in Table 3 above.

This result therefore indicates that students' do not agree with stereotype beliefs about HE education which might have no influence in their willingness to learn HE.

Research Question 4: How can HEE be strengthened towards sustainable future in Botswana?

This was answered qualitatively based on focused grouped discussion carried out by students.

Suggested Solutions to empowering HE Education towards sustainable Future based on the focused group discussion at both primary and Junior Secondary School level, indicates the followings:

- Recruitment of experienced, qualified and specialist teachers that could teach effectively without skipping vital topics in the syllabus.
- Provision of laboratories; equipment like computer, books, cookery utensils, machines and consumables at both educational levels.
- Make HE an examinable subject right from the PSL
- Creating extra time be added into the existing one for the workload since HE is taught under creative and performing Arts subjects at the primary educational level and this makes the workload heavy on both the teachers and learners.
- Teaching more of practical than theory in order to learn more productive skills.
- Make HE a core, subject right from the PSL.
- Encouraging males into learning HE in order to have more HE male teachers.
- The need for more scientific knowledge and art base in HE.
- Emphasis on sensitizing students right from home on the issue of HE education
- Encourage fund raising through HE entrepreneurship skills.

H_{01}. School level does not significantly determine the level of students' willingness to learn HE.

Table 4: Chi-Square Analysis of the relationship between School Level and Levels of Willingness to Learn HE among Students

School Level	Level of Students Willingness to Learn HE in Future			Total
	Low	Average	High	
Standard 7	138	243	38	419
	(118.3)a	(263.5)	(37.2)	
Form 3	113	316	41	470
	(132.7)	(295.5)	(41.8)	
Total	251	559	79	889

Expected frequencies are in parentheses; $P<.05$; $\chi2$ (2, n=889) =9.24; critical $\chi2$=5.99.

Table 4 shows Chi-Square results for HO[1]. This gave a $\chi 2$ value of 9.24 (see Table 4) which was found to be higher than the critical $\chi 2$ value of 5.99, given 2 degree of freedom at an alpha level of .05. Following from this observation, the null hypothesis that school level does not significantly determine the level of students' willingness to learn HE was rejected. Hence school level does significantly determine the level of students' willingness to learn HE at the BEL and beyond in Botswana.

This result indicates that students at the Junior Secondary School Level (JSSL) were significantly more willingness to learn Home Economics than Students at the PSL.

H$_{02.}$ Students attitude does not significantly influence their willingness to learn HE

Table 5: Pearson Correlations of Students Attitudinal influence on their Willingness to learn HE at the BEL in Botswana

Factor	Sch. Level	Mean	SD	r	df	P
Attitude towards HE	Standard 7	2.72	.722	.449**	422	.000
	Form 3	3.17	.434	.298**	475	.000

*Correlation is significant at the 0.01 level (1-tailed). Critical r =.088; df =422/475

Table 5 shows that attitude and willingness to learn HE also significantly correlated r (422)/ (475) = .449*/.298, p < .05; irrespective of school level. Following from this observation, the null hypothesis of no significant relationship between the two variables was rejected. Hence there was a significant relationship between the two variables.

Result indicates that irrespective of students' level of education, their positive attitude towards HE significantly influenced their willingness to learn subject.

H$_{03.}$ Students stereotype beliefs does not significantly influence their willingness to learn HE

Table 6: Pearson Correlations of Students' Stereotype Belief influence on their Willingness to learn HE at the BEL in Botswana

Factor	Sch. Level	Mean	SD	R	df	P
Stereotype Beliefs	Standard 7	1.92	.954	-.154**	422	.001
	Form 3	1.68	.834	-.204**	475	.000

*Correlation is significant at the 0.01 level (1-tailed). Critical r =.088; df =422/475

Results in Table 6 shows that the two variables (Willingness to learn HE & Stereotype beliefs) r (422)/ (475) = -.154*/-.204*, p<.05 were negatively correlated irrespective of academic level. Since the absolute r value was higher than the critical r value .088 given significant level of .05, we reject the null hypothesis that stereotype belief does not significantly influence students' willingness to learn HE. The negative correlation value indicated that the two values were inversely co-related.

This result indicates that the lesser students' stereotype beliefs towards HE is, the higher their willingness to learn HE at the BEL in Botswana.

Discussion

This discussion is made based on a combination of the purpose of the study.

Findings indicate that students at the Junior Secondary School Level (JSSL) were significantly more willingness to learn Home Economics than Students at the PSL. This result also indicates that many students at the JSSL are willing to enrol in HE even now and in future both in school and outside the school environment. This is an indication of interest and passion for a subject. This could be that the subject is taught and examined at JSSL while it is hidden and taught under Creative and Performing Arts (CAPA) curriculum at the Primary School Level (PSL). At the primary school level, students are not even examined in the subject. Hence, students do not know much about it. Since students were not given proper orientation about the subject from the beginning, it definitely could have influenced their level of willingness to learn the subject. This finding is an added body to literature since such aspect has been neglected in Botswana and other countries. If a problem exists in any sector, the root cause need to be looked into, which this study has established. Hence it is an exploratory study.

Findings indicate that the better attitude students have towards HE, the higher their willingness to learn the subject irrespective of school level. This converged with Gable and Roberts's (2009); Buabeng, Ampiah and Quarco, (2012) as well as Jensen & Owen, (2013) findings that subject choices students make in subjects like Economics, physics or Geography were attributed to interest or attitudinal change which invariably leads to stereotyping . Students at this level were actually interested and showed likeness for HE. They were actually aware of its usefulness hence their positive attitude towards the subject. This might have influenced their passion and willingness to enroll in HE presently and in future.

Findings also indicated that the lesser students stereotype belief towards HE, the higher their willingness to learn HE at the BEL in Botswana. This finding is contrary to Ogwu and Nenty's (2006) findings, that HE is endorsed as female only subject as well as Ifegbesan (2010) that gender stereotype practices still persists in Nigerian classrooms which influences subject choices made in schools by students. However, findings were contrary to Gudhlanga, Chinmuuta & Bhukuvhani, (2012) that gender sensitivity in the curriculum is still very much in existence in Zimbabwe. This finding indicates that students at the basic educational level in Botswana are beginning to be aware that subjects culturally regarded for females could also be for males. It also indicates that cultural determinants in respect to career selection are gradually dying out. Self-concept and awareness is improving as far as career selection is concerned. From all indications, students do not agree that HE is a subject for females only, or that boys are not encouraged to enroll in it. They believe it is a career for all irrespective of sex. However, they still feel that females perform better in this subject than males, and that males prefer other subjects to Home Economics. This could be at a smaller degree.

Findings from the focused grouped discussion on suggested ways HE education can be empowered at both primary and junior secondary school level, converges with most researchers that human and material resources should be supplied to avoid skipping vital entrepreneurial topics and skills while teaching and learning (Matsela, 2007; Ogwu, 2010a; Street, 2006; Werhan, 2007). However, suggestions were mainly limited to teachers' perspectives neglecting learners whose voices were supposed to be heard especially at the lower educational levels. Further suggestions made were also directed to the government to supply laboratories; equipment like computer, books, cookery utensils, machines and consumables. Students also suggested that HE be made a compulsory and examinable subject right from the Primary School Level in convergence with Street (2006) ideas. Students at both levels felt that HE be allotted extra time to the existing ones for the workload. This is because; HE is taught under creative and performing Arts subjects at the primary educational level and this makes the workload heavy and invisible on both the teachers and learners according to them. Teaching more of practical than theory was also advocated for by Form 3 students in order to learn more productive skills. They felt that society should be oriented towards encouraging males into learning HE in order to have more HE male teachers. The need for more scientific knowledge and art base in HE was also discussed.

Conclusion

The level of willingness to learn HE is relatively lower among Primary school pupils than junior secondary school students at the basic education level in South Central Region of Botswana. However, the lesser students stereotype beliefs irrespective of class, the better attitude and higher willingness they have towards learning HE. This could be attributed to a broader knowledge about the usefulness of HE. However, proper incentives are not given to learning this subject from human to material resource aspects. Negligence of this nature could be ripping off the values and needed skills for self-reliance and sustainable future among youths in Botswana and other developing nations with poor recognition of HE education.

This study has implications on the preparation of youths at the BEL with entrepreneurial, social, and health skills in order to alleviate poverty, health and social problems rampart in families and societies at large today.

Recommendations

Recommendations were directed towards:

1. Teacher preparation for effective teaching of HE from primary level to higher educational level.
2. Curriculum reform is necessary to remove obsolete curriculum content and bring in more contemporary HE related issues for learners' interest.
3. Provision of quality material resources as well as government assistance in funding.
4. Integrating ICT into HE education to entice and encourage more males into the field.
5. Policy makers should endeavour to make HE an examination and compulsory subject right from the primary school level. This will give children proper orientation about HE education from the grassroots.

References

Albert, M. (2005). Home economics archive: Research, tradition and history. Retrieved from *[http://hearth.library.cornell.edu.].*

Buabeng, I. Ampiah, J.G., & Quarcoo-Nelson, R. (2012).Senior high school female students interest in Physics as a course of study at the university level in Ghana. *Gender and Behaviour Journal, 10* (1), 4574-4584.

Central Statistics Office Gaborone, Botswana (2007). Primary and secondary school data. Retrieved February 21, 2007 from *[http://www.cso.gov.bw/htm/educ/tab06_4_6.html].*

Gable,R.K., & Roberts, A.D. (2009). An instrument to measure attitude toward school subject. Retrieved from [*http://epm. sagepub. com/cgi/content/abstract/43/1/289].*

Gudhlanga, E. Chinmuuta, C. & Bhukuvhani, C. (2012). Towards gender inclusive curriculum in Zimbabwe's education system: Opportunities and challenges. *Gender and Behaviour Journal, 10* (1), 4533-4545.

Ifegbesan, A. (2010). Gender stereotype belief and practices in the classroom: The Nigerian post- primary school teachers'. *Global journal of Human Social Science, 10*(4), 29-37.

Ifijeh, G.I. & Osayande, O. (2011). Issues in girl-child education in Nigeria: Implications for library and information support. *Gender and Behaviour Journal, 9* (2), 4139-4150.

International Federation for Home Economics (IFHE). (2003). Position paper on the eradication of poverty. Retrieved from [*http://www.ifhe.org*].

Jensen, E. J. & Owen, A. L. (2013). Pedagogy, student gender and interest in Economics. Retrieved from *[http://academics.hamilton. edu/economics/home/workpap/99-10.pdf*].

Matsela, Z.A. (2007). Development of education in Lesotho. Retrieved from *[http://unpan1.un. org/intradoc/groups/public/ documents/AAPAM/UNPAN025644.pd]*

McGregor, S.L.T. (2005). Positioning home economics on the vanguard of sustainability.

Keynote address, HEIA 2005 conference. Australia. Retrieved from *[http://www. cosultmcgregor.com]*

McGregor, S.L.T. (2006). Sustaining home economics in the 21st century: Root system as metaphor. Retrieved from *[http://www. cosultmcgregor.com]*.

Mendoza, M. A., & Ikezaki, K. (2006). Home economics education in the elementary level in the Philippines. *Bulletin of Tokyo Gakugei University, Educational Sciences, 57*, 351-357.Retrieved from *[http://ir.ugakugei. ac.jp /bitstream/2309/1430/1/18804306-57-32.pdf].*

Ogwu, E.N., & Nenty, J.H. (2006). Stereotype endorsement, gender and some home economics related behaviour among secondary school students in Gaborone, Botswana, *Gender and Behaviour Journal, 4*(2), 927-952.

Ogwu, E.N., & Ogwu, F. J. (2009); "Gender and attitudinal influence towards students' willingness to study home economics at the junior secondary school level in Botswana" *Southeastern Teacher Education Journal (SETE), 2*(4), 69-79.

Ogwu, E.N. & Ogwu, F.J. (2010a): Technologies and utilizations in schools: Implications to learning. *Journal of Technology Integration in the Classroom, 2*(1), 47-55.

Ogwu, E. N., & Ogwu, F. J. (2010b).Trend analysis of enrolment at the junior certificate examination level in Botswana. *Journal of Mathematics and Computer Sciences, 1*(21), 53-60.

Pendergast, D. (2007). Placid beginnings/turbulent times: Re-thinking home economics for the 21st century. Retrieved from *[http://www.heia.com.au /heia_graphics/JHEIA81- 1.pdf].*

Pepall, J. (2007). Reinventing home economics in Canada and Africa. Retrieved from *[http://www.idcr.ca/en/ev-5536-201-1-DO_TOPIC.html].*

Pinias, C. & Matswetu, V.S. (2013). Gender stereotyping and female pupils' perceptions of studying a*dva*nced level sciences: A survey of one province in Zimbabwe. *Gender and Behaviour, 11*(1), 5285-5296.

Street, P. (2006). Home economics education in New Zealand: A position statement. Retrieved from *[http//www.tki.org.nz/r/nzcurriculum/draft_curriculum/health_physical_e.php].*

Tinklin, T., Croxford, L., Ducklin, A., & Frame, B. (2005). Gender and attitudes to work and family roles : The views of young people at the millennium. *Journal of Gender and Education, 17*(2), 129-142.

United Kingdom Government (2006). Effective learning and teaching in Scottish secondary schools: Home economics. Document Retrieved from *[http://www.hmie.gov.uk/documents/publication/elhe-08.htm].*

United Nations, (U.N) (2005). UN millennium development goals. Retrieved from *[file://F:\The UNMillenniumDevelopmentGoals.htm].*

Werhan, C. (2007). Family and consumer science teachers' education: Not for women only. *Workforce Education Forum, 29*(2), 50-57.

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Beneficiaries' Perception of Gains of the National Poverty Eradication Programme-Capacity Acquisition Scheme

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Abstract

The study focused on beneficiaries' perception of the gains of National Poverty Eradication Programme-Capacity Acquisition Scheme (NAPEP-CAS) in tailoring skills for entrepreneurship in Southwest, Nigeria. The study adopted an expo-facto research design. A purposive sample of 599 tailoring NAPEP – CAS beneficiaries were selected from two States (Ogun and Osun) Southwest, Nigeria. One Hundred and fifteen (115) beneficiaries were used for pilot study while four hundred and eighty four (484) beneficiaries were used for field survey using questionnaire to solicit information from them. The data were analysed using frequency counts, percentages and standard deviation. Findings show that NAPEP – CAS empowered their beneficiaries with tailoring skills for entrepreneurial activities in order to reduce poverty. Both male and female benefitted from the programme. The beneficiaries perceived that there are gains in NAPEP-CAS objectives.

Keywords:- National, Poverty, Eradication ,Programme, Tailoring, Beneficiaries.

Introduction

Nigeria is a great country that is blessed with many natural resources, despite this, the country is facing challenges of poverty in form of unemployment, food crisis, high crime rate, inflation, inequality, malnutrition to mention a few. The issue of poverty has been described as widespread and severe despite the country's vast resources (Central Bank of Nigeria (2006) and World Bank (2006).

There are many National Poverty Eradication Programmes initiated by different levels of governmental, nongovernmental organization and international agencies. One of the most current Federal Government Programmes in improving the socio-economic status of the communities is the National Poverty Eradication Programme (NAPEP) which is under the supervision of the Presidency. The organization was set up to solely to tackle the poverty problem in Nigeria. The most current schemes organized are the 'Keke NAPEP' and Capacity Acquisition Scheme (CAS) which exist majorly in most state capitals. National Poverty Alleviation

Programme is one of the forefront agencies for poverty eradication in Nigeria.

The intervention mandate was to mobilize resources from all tiers of government throughout the country for economic empowerment. Resources generated are being used to spur economic activities at the grass root thereby promoting the wellbeing of the people and ensuring sustainability. This also will enable the poor to contribute their quota to the economic development process of Nigeria. In its operation, NAPEP adopted a catalytic strategy in fighting against poverty in order to achieve its goals in reducing poverty by half the population of Nigeria living in poverty. Capacity Acquisition Scheme (CAS) is one of NAPEP designed Schemes to enable participants of different educational background to acquire skills and professional training in chosen trades. NAPEP selects, trains and empowers unemployed youths to give them the opportunity to play more productive and self-fulfilling roles in the process to enable them contribute to the development of the country regardless of their gender. The main focus of the scheme is to train unemployed youths in simple vocations and trades such as tailoring, hairdressing etc. The programme was designed and implemented on the following schemes since its inception in 2001

Youth Empowerment Scheme (YES): the beneficiaries are trained for a chosen trade of their choice. Equipment and money were given to them to start their own cottage industry.

***KEKE NAPEP phase I, II and III*:** beneficiaries are trained to drive and maintain three wheel vehicles. The tricycles were aimed at providing transportation to public at a moderate and affordable price.

***Globacom Partnership Programme*:** beneficiaries are trained for repairs, sell of handset and rendering of phone call services to customers at a reduced price.

***Microcredit Scheme*:-** this scheme was designed to assist small scale business through provision of funds for market and business development.

Farmers Empowerment Programme (FEP): this was aimed to assist farmers in achieving their potentials for increased output, productivity and consequently their income on a sustainable basis.

Multi Partner Microfinance (MP-MF): this served as a catalytic tool for resource generation for grass root activities and mass participation in economic development process especially in promoting saving and the provision of credit facilities to the poor.

Promise keepers Programme(PKP):- aimed at creating a large pool of resources to empower the poor to undertake economic activities. It targeted the religious bodies or faith based organization such as mosques and churches.

Conditional Cash Transfer (CCT):- stipulated amount of money were given to the core poor to care from themselves and train their children to school.

Village Economic Development Solution (VEDS):- this scheme was aimed at benefitting the masses in the rural areas through their cooperative societies.

The objectives of NAPEP are as follow:

Training of unemployed youths in entrepreneurial skills, payment of monthly allowance during training, provision of equipment to set-up cottage industry after completion, monitoring and co-ordinating the business for certain periods (NAPEP

Bulletin 2007, 2009 and 2010) . Several factors such as gender, location, educational level are expected to influence this programme, Many participants are also expected to have benefitted and to be self reliance.

Tailoring and Fashion Design is an aspect of Clothing and Textiles which is a skill oriented subject which was taught for capacity building. It is an area of competence which can equip individual with tailoring skill for setting up an enterprise for self employment. Arubayi (2004) emphasized that it is a field of study which combined both theoretical and practical knowledge from other subject areas such as Art and Social sciences on the use of apparel to create an acceptable illusion on the family and society. Ajala (2006) explained that tailoring is the ability to explore the available resources whereby the unlimited sophisticated and classical tailoring can work in collaboration with the arts of work. Dabiri (2005) stressed that tailoring is an act of cutting, tearing, hemming, stitching, felling, mending, repairing and sewing clothes of all kinds both old and new for human consumption. Historically, tailoring was first noticed with Adam and Eve in their bid to knit for themselves a net to cover their nakedness when they found themselves naked after they had contravened or circumvented God's injunctions by breaking God's commandment. Modern tailoring was originated and aggravated by white people as a result of the civilization that brought about development and advancement. However, Vanderhoff, Frank and Campbell (1983), Igbo (2003), Arubayi (2005) and Anyakoha (2011) identified different stages involved in tailoring skills and equipment needed that can produce exact design, style and fitness of any garment of ones choice.

Arowomole and Oyedokun (2006), viewed entrepreneurship as an undertaking in which one is involved in the task of creating and managing an enterprise for a purpose. Oriazowanian and Jimoh-kadiri (2010), see entrepreneurship as the process of creating something new and assuming the risk and rewards thereof and also thought of as the art of managing both small and large organization with a view to creating satisfaction on both sides (Producers and Consumers). Opara (2006) and Olagunju (2008) viewed entrepreneurship as the willingness and ability of an individual to seek out investment in an environment and be able to establish and run it successfully based on the identified opportunity. To cap it up, entrepreneurship is the creation of new enterprise that gives value to humanity by filling neglected areas. That means the new enterprise created must give value to humanity or fill up yearning vacuum left unfilled. However, an entrepreneur is not a contractor but a pivot on which the economy of the nation rotates. A nation that has entrepreneurial deficiency will find it difficult to industrialize and grow economically [Joel (2011), Ezeoguine and Ukpore (2011) Onyeneke and Ochonogor (2009) and Adidu, and Olanya, (2006)].

In view of one of the threats poverty pose to individuals and to national development, many poor countries in the world have evolved various methods of combating poverty. This is not only to improve the living standard of the citizens but also to accelerate rapid economic development. From this end, skill acquisition in tailoring may be one of the means of reducing poverty to the minimal level. If one knows how to design, draft, cut and sew various fabrics, the individual will be able to make garment for himself and others. The acquired skill will encourage and prompt individuals to set up a small cottage industry. This may help to improve the individual's economic status and provide a better chance for becoming a good citizen.

Also influence of gender in skill acquisition cannot be overemphasized. In fact, there is rising global consciousness at the grass root and policy level regarding the impact of gender issue in education and national development. According to Galst (2010) and Morgan (1992) they viewed that there is also the growing consciousness that both men and women constitute the driving forces for the national development. Thus they ought to participate equally in training for survival and economic stability. In addition Arubayi (2010) posited that tailoring skills are more appreciated among females because of their passion for good looks consciousness and patronage of fashion. Therefore they have more flair for wearing different outfits often.

It is on this premise that the study aimed at assessing beneficiaries' perception of gains of National Poverty Eradication Programme – Capacity Acquisition Scheme in Tailoring Skills for Entrepreneurship in Southwest, Nigeria. This study is significant in that by developing the people's creative ability through tailoring skills, they could be endowed with both employable and entrepreneurial skills that are needed to transform the people from the state of poverty to that of prosperity.

Purpose of the Study

The major purpose of the study was to assess the beneficiaries' gains of National Poverty Eradication Programme-Capacity Acquisition Scheme in tailoring skills for entrepreneurship to eradicate poverty in South-West, Nigeria. Specifically the study determined:

(1) The extent NAPEP-Capacity Scheme empowered her beneficiaries in tailoring skills for entrepreneurial activities in order to reduce poverty.
(2) The influence of gender on beneficiaries of National Poverty Eradication Programme- Capacity Acquisition Scheme in tailoring skills for entrepreneurship in the study areas.
(3) The beneficiaries' perception on gains of the National Poverty Eradication Programme- Capacity Acquisition Scheme set up objectives in the study areas.

Methodology

***Area and Design of the Study*:** This study adopted an ex-post-facto research design which was descriptive in nature. Ogun and Osun States were the areas of the study. There are three Senatorial districts in both states and twenty and thirty Local Government Areas (L.G.As) in Ogun and osun respectively. The states embraced handcraft for culture, tourism and hospitality.

Population of the Study: The target population included all Ogun and Osun NAPEP beneficaries of Capacity Acquisition Scheme in tailoring for five years (2003 – 2007) when the Scheme was functional and viable in South-western geo-political zones of Nigeria. Only two states (Ogun and Osun) were examined during the period under review. In all, a total number of 2,396 beneficiaries were involved in the training. From Ogun State, 1,327 beneficiaries and from Osun State, 1,069 benefitted from the programme. The total number of beneficiaries in the two states was 2,396.

Sample for the Study**:** five hundred and ninety-nine beneficiaries were randomly selected as the sample for this study. Three hundred and eleven (311) beneficiaries out of one thousand two hundred and forty four (1244) are selected randomly from twenty local Government Areas of Ogun state while two hundred and eighty eight (288) beneficiaries out of one thousand one hundred and fifty two (1152) are also selected from thirty local Governments Areas of Osun State. One hundred and fifteen (115) beneficiaries were used for pilot study while four hundred and eighty-four (484) beneficiaries were used for the field study. For data analysis, two hundred and eighty-five (285) female beneficiaries and one hundred and ninety-nine (199) male were used.

Instrument for Data Collection: Both primary and secondary data were used for this study. Primary data were collected from the graduates using 4-point scale questionnaire of Strongly Agree, (4 points) Agree (3 points), Disagree (2 points) and Strongly Disagree (1 point). These scores were aggregated for each item and the mean score was obtained. Also, when the aggregate (4+3+2+1) were divided by 4, the mean value of 2.50 was obtained. Therefore, a score of 2.50 was used as a cut-off point or decision rule for agreeing and strongly agreed with the items. Any mean value below 2.50 was taken as disagreed and strongly disagreed. Secondary data were collected from Ogun, Osun NAPEP officers, NAPEP Bulletin and internet.

The research instrument was validated by two lecturers from Olabisi Onabanjo University in Home Economics (Clothing and Textiles option), two other lecturers in statistics department of Obafemi Awolowo University, Ile-Ife and two Ogun and Osun Research Officers with National Poverty Eradication Programme.

Method of Data Collection and Analysis**:** four hundred and eighty four (484) copies of questionnaire were collected and analysed. Descriptive statistical tools like frequency count, mean and standard deviation were used.

Results

Table 1: The Extent NAPEP – Capacity Acquisition Scheme Empowered Beneficiaries in Tailoring Skills for Entrepreneurial Activities

N = 484

S/N	Empowerment indicators	$\bar{x}$	St.d	Decision
1.	Monthly allowance given to the trainee reduced the number of unemployed youths	3.33	0.87	Agree
2.	Prompt payment of allowance motivated the Capacity Acquisition Scheme (CAS) graduates for sustainable entrepreneurship skill development.	2.79	0.79	Agree
3.	Payment of monthly allowance to the trainees during training period motivated the success of the graduates.	2.99	0.63	Agree
4.	Provision of equipment to the graduates to set up their business after completion of training assisted in reducing poverty.	2.46	0.51	Disagree

5.	Monitoring activities of the organizers of Capacity Acquisition Scheme assisted the graduates to sustain their business activities	2.59	0.61	Agree
6.	Proper coordination of NAPEP tailoring cottage industries has reduced unemployment rate.	2.35	0.49	Disagree
7.	The overall objectives of programme are attainable	2.62	0.77	Agree

Source: Field survey 2011

Table 1 shows that NAPEP-Capacity Acquisition Scheme impacted tailoring skills to the beneficiaries in seven ways as perceived by the respondents. This revealed that each of the five items indicated a mean score above 2.50 while two items indicated less than 2.50. It implied that the beneficiaries agreed with five empowerment indicators while they disagreed with only two.

Table 2: Gender influence on beneficiaries of NAPEP – Capacity Acquisition Scheme in tailoring skills for entrepreneurship.

S/N	Gender Influence Indicators	Male = N = 199			Female = N =285		
		$\bar{x}$	St.d	Decision	$\bar{x}$	St.d	Decision
1	My gender (sex) had no influence in my enrolment for tailoring skills	3.40	0.74	Agree	3.58	0.49	Agree
2.	My gender gives me an advantage to perform better during the training	2.99	1.02	Agree	3.55	0.77	Agree
3.	Tailoring skills are meant for females only.	1.33	0.66	Disagree	1.48	0.70	Disagree
4.	Tailoring skills are meant for males only	1.56	1.11	Disagree	1.35	0.54	Disagree
5.	Males and Females are involved in tailoring Capacity Acquisition Scheme	3.68	0.84	Agree	3.53	0.98	Agree
6.	The course contents are more on specific gender.	1.47	0.50	Disagree	1.43	0.69	Disagree
7.	Gender disparities are well taken care of in the design of tailoring capacity acquisition scheme.	1.58	0.78	Disagree	1.70	0.81	Disagree
8.	Training skills in tailoring are gender sensitive.	1.72	0.89	Disagree	2.80	1.09	Disagree
9.	There is no gender bias in terms of scored, incentives available during the training.	3.52	0.60	Agree	3.51	0.61	Agree
10.	The duration of training did not consider gender	3.60	0.63	Agree	3.56	0.65	Agree
11.	My gender influences my performance during training.	2.14	0.41	Disagree	2.19	0.53	Disagree

Source: Field Survey, 2011

Table 2 shows the influence of gender (male and female) on NAPEP-Capacity Acquisition Scheme in tailoring skills for entrepreneurship. Five items indicated have a mean score above 2.50 while seven items indicated less than 2.50. This implied that the beneficiaries agreed with five indicators gender influence while the respondents disagreed with seven of them.

Table 3: Perception of the respondents on the gains of NAPEP-Capacity Acquisition Scheme set-up objectives.

N = 484

S/N	Objectives Gains Indicators	$\bar{x}$	St.d	Decision
1	The training of unemployed youths in entrepreneurial skills has been achieved	3.64	0.77	Agree
2	Payment of monthly allowance during training was regular	2.91	0.36	Agree
3	Provision of equipment to set-up cottage industry after completion was implemented	2.93	0.38	Agree
4	Monitoring and coordinating of cottage industry for certain period was implemented	3.24	0.64	Agree
5	The NAPEP organizer fulfilled all the set-up objectives of the programme	3.00	0.49	Agree
6	The scheme enabled me to become productive and useful citizen	2.97	0.38	Agree

Source: Field survey 2011

Table 3 indicates perception of beneficiaries on the extent of gains of NAPEP- Capacity Acquisition Scheme set-up objectives. The objectives achievement indicators mean score was 2.50 cut-off point. This implied that the respondents agreed that NAPEP-Capacity Acquisition Scheme achieved their set-up objectives in study areas.

Discussion of the Findings

From Table 1, the beneficiaries agreed that they gained prompt monthly payment of allowances, monitoring of activities and proper co-ordination of NAPEP organizers. In addition, provision of equipment to set up their enterprises after completion were also experienced by the beneficiaries. The incentives put in place enabled the beneficiaries to have better understanding of tailoring skills. This is in line with Arubayi (2004) that viewed tailoring skill as a course that combined theoretical and practical knowledge from other subject areas in the use of apparel to create an acceptable illusion in the family and society. In addition, the beneficiaries were empowered with tailoring skills that make them become entrepreneurs with sustainable livings with Opara (2006) and Olagunju (2008) that explained entrepreneurship as the willingness and ability of an individual to seek out investment in an environment and be able to establish and run the enterprise successfully based on the identified opportunity.

From the study, it was found in Table 2 that there is no gender influence on beneficiaries of NAPEP – Capacity Acquisition Scheme in tailoring skills for entrepreneurship. The course contents are not on gender disparities. This implied that there is a growing consciousness that both male and female contributed meaningfully since they both constitute driving forces for national development. In addition, Arubayi (2010) and Morgan (1992) affirmed that tailoring skill is also a vital tool in poverty reduction thereby creating wealth for that oneself and improve the development of the nation NAPEP Bulletin (2007, 2009 and 2010) also confirmed that several factors were considered before putting up the programmes.

From the study on Table 3, it revealed the perception of the respondents on the gain of NAPEP – Capacity Acquisition Scheme set-up objectives. According to NAPEP bulletin 2009 and 2010 that stated NAPEP objectives as: training of unemployed youths in entrepreneurial skills, payment of allowance during training, provision of equipment to set up cottage industry after completion, monitoring and co-ordination of enterprises. The respondents perceived that all the stated objectives were benefitted. This implied that the resources generated by Federal Government to spur economic activities at the grassroot thereby promoting the wellbeing of the people and ensuring economic sustainability. In addition, it enables the poor to live a meaningful and sustainable lifes and also enabled them to contribute their quota to the economic development process of Nigeria.

Conclusion

In conclusion, the study has shown that the respondents participated and benefitted in NAPEP-Capacity Acquisition Scheme tailoring skills in order to reduce their poverty status and be economic viable. The programme involved both male and female without any sentiments attached to it. There is now rising global consciousness both at the grass roots and policy level regarding the impacts of gender issues in educational and national development. The respondents involved fully in the programme. Above all, Nigeria governmental and non-governmental agencies should continue intensifying more efforts in training and skill development. The benefits of this cannot be over emphasized in raising the living standard of entrepreneurs for sustainable living.

Recommendations

In the light of the findings of this study, the following recommendations are made that:

1. The unemployed, unskilled and the impoverish participants(male and female) should appreciate the value of self empowerment, motivation to participation in practical, social and economic activities and skill-based income generating programme.
2. National poverty Eradication Programme-Capacity Acquisition Scheme should ensure adequate provision of training facilities, materials and in-built incentives to sustain the programmes.
3. The participants must appreciate the value of stimulus response approach (participation positive reinforcement and reward) to eradicate poverty.
4. The NAPEP organizers should encourage more male and female to participate in the scheme through adequate publicity.

References

Adidu, F and Olanya, P (2006), *Basic Small Entrepreneurship*- A modern approach, Royal Pace Publication, Agbor 2-3 .

Ajala, J (2006) *Re-conceptualizing the Home Economics Curriculum,* May Best Publication, Ibadan, 50-62.

Anyakoha, E (2011), *Home Economics For Junior Secondary Schools,* Africana First Publisher PLC, Onisha, reprinted 108-119.

Arowomole, A.M. & Oyedokun, J. (2006) *Entrepreneurship Structure and Practice*, Jodus Publisher, Ibadan. 1-2.

Arubayi, D. O (2010) Importance of Proper Dressing in Modern Living Nigeria, *Academic Leadership Empirical Research, U.S.A 8(1), 22-23.*

Arubayi, D.O. (2005) Problems confronting the Teaching of Clothing and Textiles in Tertiary Institutions, *Journal of Education Research and Development* 2, (1) 53-62.

Arubayi, D.O. (2004) Problems confronting the Teaching of Clothing and Textiles in Tertiary Institutions, *Journal of Education Research and Development* . 2, (1) 53-62.

Central Bank of Nigeria, (CBN 2006), *Measuring and Monitoring Poverty in Nigeria*, Proceeding of the Seventh Annual Conference of Zonal Research Unit Research Department Abuja, 1-32

Dabiri, A (2005), *Creative Trends in Visual Arts and Tailoring,* University Press, Ibadan, 1-17.

Ezeoguine, J and Ukpore, B (2011), Developing Textile Skills Towards Poverty Alleviation Perception of students in Federal College of Education (Technical) Abraka, Lagos State in Salami (Edn) *Nigeria Journal of Home Economics* 2(1) 1-9.

Galst, L., (2012), Saving Lives, Promoting Democracy, alleviating Poverty, and Fighting AIDS: The case for Finding lesbian, gay, Bisexual and Transgender Population" (March 2010), accessed at www.arcusfoundation.org/images/uploads/downloads/saving lives Report Arclis Galst 2010 pdt, on July 2014.

Igbo, G.(2003), *Employment Opportunities in the Textile Industry For Senior Secondary Graduates* in Anyakoha (Edn), Research Imperative and challenges For Home Economics Research Asscociation of Nigeria (HERSON) Nsukka, 105-114.

Joel, B. (2011), Eyeing Sustainable Development: Entrepreneurial Climate Must Change in Nigerian Universities in Arubayi, Akpota and Oghuvbu (edn) in Books of Readings: Education and Training for Enterpreneurship 1(1) 8-19.

Morgan, J. E (1992), *Classroom Instruction That Works: Research-Based Strategies for Increasing Students' Achievements* Association for Supervision and Curriculum Development, Alexandris XA 20-33.

National Poverty Eradication Programme (NAPEP Bulletin 2007), *Success Stories, National Poverty Eradication Programme*, Concept and Production, Abuja 1 – 42.

National Poverty Eradication Programme (NAPEP Bulletin 2009), *Annual Review of NAPEP in Nigeria* Lagos 10 – 15.

National Poverty Eradication Programme (NAPEP Bulletin 2010), *Development Cooperation in Nigeria, National Techniques Co-operation Assessment*, National Planning Commission, Abuja. 6 – 13.

Olagunju, R.O. (2008), Improving Infrastructural Facilities for the preparation and better performance of Home Economics Teachers in the 21st Century, *The Asaba Educator*, Vol. 1, (1) . 32-36.

Oriazowanian, A and Jimoh-kadiri, S.(2010), Empowering Nigerian Women through entrepreneurship : The mandate of Business Education, Journal of Technical and Vocational Education, University of Benin 2(1) 28-32.

Onyeneke, D and Ochomogor, E (2009), *Appropriate technologies For improving Women Enterpreneurship For Rural Development* in Anyakoha E.U (edn), Research Issues in Home Economics, Nsukka, 152-163.

Opara, C.C. (2006), *An Assessment of Humanistic Values Educational Through African Interactive in French and Some Selected Colleges of Education in Nigeria, Unpublished Ph.D Thesis*, Department of Adult Education University of Ibadan, Ibadan, 22-23.

Vanderhoff, M., Frank, L and Campbell, L (1985), *Textile for Homes and People*, Ginn and Company, Lexington 401-429.

World Bank (2006), *Nigeria's Development Prospects: Poverty Assessment and Alleviation Study.* Washington D.C 20433, The International Bank for Reconstruction and Development 60-67