Knowledge of Population Ageing and Elderly Nutrition among Undergraduates in a Nigerian University

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Abstract.
The knowledge of Population ageing, elderly nutrition and the attendant problems of increased elderly population is a subject of basic contemporary research. Thus, this research investigated the knowledge of some group of undergraduate on knowledge of ageing and elderly nutrition. By means of random sampling, 500 undergraduate students were selected for the study. Data was collected with a structured questionnaire for the personal characteristics. There were tests on knowledge of population ageing, elderly diet and nutrition. Furthermore, data were collected on attitude of undergraduate toward health policy for elderly in Nigeria.
The results revealed that less than half (44%) have the knowledge that biological age of elderly begins at 60 years. About half had the knowledge that life expectancy has increased in Nigeria, and 70% strongly agree on health policy for the elderly. The knowledge of undergraduate toward the nutrition of elderly illustrates that majority especially those with food science and nutrition background had a good score (99%) while a contrary result occurred with those without nutrition background (62% have a poor score). A correlation exists between knowledge of ageing and elderly nutrition ($r = 0.23$; $p<0.05$). Recommendations among others include the update of curriculum to increase the knowledge of population ageing and nutrition of the elderly.

Introduction.

Population ageing is a powerful emerging demographic phenomenon in sub Sahara Africa and even Nigeria, warranting a strong multi-sectoral policy and programme response to deal with many serious implications for the elderly in particular and society at large.
Longevity by itself is to be celebrated, but for the increasing vulnerabilities of the elderly arising out of poverty, rural living, income insecurity, illiteracy, age related morbidity, feminisation, dependency and malnutrition (NPC 2006; Holmes, 2004).
In most of the western countries, advanced stages of development preceded population ageing, but the same is not true for many developing and middle-income countries, including Nigeria. Further, Nigeria is currently going through a phase of demographic paradox wherein it has to capitalize on the demographic window of opportunity by investing in youth and at the same time focus on an increasing elderly population to be in line with the united nation Plan on Ageing.

This plan happens to be a political recommendation that older persons must be full participants in the development process of the 21st century and a rouse for the increase number of elderly worldwide (UNPF, 2012).

In the case of Nigeria 1991 census puts 4.6 million of Nigerians as aged 60 years and above, about 5.2% of the entire population (NPC 1994). By 2005, Nigeria will have one of the world's largest population of the elderly with a projection of more that 16 million people over the age of 60, a whopping -1230% increase over the figure of 1.3 million in 1950 (NPC 2006).

Despite this visible process of population ageing yet the recognition by the government is still limited because of other pressing priorities that command most of the attention of policy makers.

In view of this situation of demographic shift, there should be a strategic plan covering elderly population and knowledge of ageing.

Building a Knowledge Base on Population Ageing in Nigeria, improving data base on elderly health nutrition and standard of living will help for further research, advocacy, policy dialogue and programming. Thus, it is necessary to stimulate and create awareness of population ageing among the youth in Nigeria.

The emerging changes in age and sex structure of Nigeria population, particularly at old and older ages will have a profound impact on the demographic landscape and are expected to pose multifaceted developmental challenges. While the knowledge base with regard to the elderly in terms of their demographic, social and economic conditions, health needs and their living arrangements are fairly extensive in developed countries it is woefully inadequate in India (UNPF,2012). Several researchers have attempted to extract information on issues of the elderly from various national surveys commissioned for different purposes (Falkingham, et al.2010; WHO, 2012). However, data bases at the macro level focusing exclusively on the elderly are negligible in number. Of importance is the deficiency in content or inclusion of elderly care in most health and non health professionals, in Nigeria (Fajemilehin, 2013).

In this wise Nigeria youth and educational institutions must be used in creating consciousness on population ageing.

Hence, the study focused on knowledge of undergraduate on population ageing.

Building a Knowledge Base on Population Ageing in Nigeria will further strengthen the advocacy on care of elderly, preparation of adults towards the elderly

The Concept of Population Ageing in orientation to this research work.

In this section the articles defined the two types of ageing.

1. Ageing of individual
2. Ageing of populations.

Usually, getting older is a process that affects everybody between birth and death.

In the demographic outlook, ageing of individuals is a function of mortality and is reflected in various measures such as the probability of surviving from one age to another, and life expectancy (NPC 2006, SCN 1999).

At the individual level, age is both a state and an outcome. As a state, age comprises three levels:

the organic state, the social state and the psychological state.

The organic state at specific ages relates to disease and to the expression of disease in terms of pathogenetic processes. The social state at specific ages relates to the lay down roles and statuses ascribed to or achieved by an individual.

Age is a phenomenon which binds a complex of social roles such as, a daughter, a student, a parent, a wage earner, a wife etc. The psychological state at definite ages relates to the capacity to function, i.e. the individual's capacity to use his/her organic endowment (NPC, 2006).

Age as a consequence also has three elements:

1 Age identifies a person as younger as or older than others, with a set of roles appropriate for that age.
2 Age marks the duration of exposure of life.
3 Age identifies the specific experience of or exposure to a unique period of history and membership in a generation (WHO, 2010, NPC, 2006).

Population ageing, on the other hand, is a process in which older persons become a proportionally larger share of the total population, i.e. a situation where the population is becoming older. Originally experienced by the developed countries, the process has become apparent in the developing countries. In the near future, almost all countries will face population ageing, though at varying levels of intensity and in different time frames.

The ageing of a population may be measured by the median age, the ratio of persons 65 and over to children under15, and the proportion of persons 65 and over in the total population. These measures may indicate different degrees of ageing.

For instance, a population may be described as old or young at the same time if the proportions of aged persons and children are both increasing.

Population ageing is a function of changes in fertility, mortality and migration (ie. a result of Demographic and epidemiologic transitions). Nevertheless, the process of population ageing is first and foremost determined by fertility (birth) rates and secondarily by mortality (death) rates. Populations with high fertility tend to have low proportions of older people. Populations begin to age when fertility declines and adult mortality rates decline. Consequently, the proportion of the older ages in future years will significantly change by postulation concerning fertility and life expectancy. However, the proportion will be affected only slightly by changes in mortality. International migration does not usually play a vital role in the process of population ageing, but can be beneficial in smaller populations.

The term "**elderly**" may conceal the diversity of a broad age group which according to World health Organisation (WHO) is Age 60 years and over. For comparative purposes WHO gave some chronological demarcation of age categories. We could discuss ageing in the context of how population characteristics vary with age. As the older population is not a homogeneous group, and its characteristics tend to vary by age, the older population in terms of component age groups, are demarcated thus: 60-64; 65-69; 70-74; 75-79; 80+). All groups are referred to as **"elderly"** (WHO, 2010).

In literature 60-74 are refer to as young old; 75- above are oldest; 80 years plus are oldest old. 85 years and over are aged. (NPC, 2006; SCN 1999).

Methodology.

Study Area.

The Federal University of Agriculture is located along Alabata road Abeokuta Ogun state South west Nigeria with 10,000 hectares of land. It is one of the three Universities of Agriculture in Nigeria with a mandate of teaching, research and extension services.

Sampling techniques and sample size.

The respondents were drawn from two colleges out of eight colleges within the study area using the random sampling techniques. This was done in such a way that every member has equal probability of being chosen by Yaro Yamane formula. The Yaro Yamane formula (Olaitan et al 2000), a formula that reduces the standard error that would have occurred.

Every subject had an equal likelihood of selection at a 0.05 level of significance. The total number of student selected was five hundred.

Method of data collection.

The data collection was by closed questionnaire on personal characteristics of respondents knowledge of population ageing, elderly health and nutrition (Moynihan, 2007). Furthermore student's attitude towards elderly health policy were assessed (Elbon 1996; Shepherd and Towler 2007).

Descriptive statistics such as frequency distribution percentage, Standard deviation, inferential statistics were used to analyze the data.

Results and Discussion.

Sociodemographic background of the respondents.

The respondents were all science students in colleges of natural sciences, food science and human ecology. The age ranged from 16 – 35 years. Gender distribution revealed that there were 69% female and 31% male respondents. The religion affiliation distribution was between Christian (83%) and Islam (27%) (Table1).

The awareness on world population ageing among the respondent shows that 38% are aware that Africa is hosting the largest population of elderly in the developing countries. The knowledge of biological age for the elderly at 60 years was endorsed by less than half of the respondents (44%) some believe that 50 years of age can be an elderly (32%) while others (24%) endorse below fifty years (Table 2)..

The information on elderly educational status in Nigeria is tremendously vital to the overall plan of action to make elderly live an independent life. Only 35% of the respondents know the true statistics on literacy condition of the elderly in Nigeria. The literacy rate and overall educational status have been extremely useful in the elderly health and nutrition in Nigeria, (Olayiwola et al 2004). Education has been critically necessary for health, nutrition and survival (world bank 2002; Engle et.al. 1997) Thus, low education is likely to lead to inadequate care, sanitation and poor health-

seeking behaviors, which in turn are associated with increased risk of inadequate food intake among the elderly (Olayiwola et al 2004).

In respect to elderly life and preparation for retirement, some undergraduate have poor knowledge on pension scheme (34%) while others (66%) have a good understanding of the national contributory pension scheme insurance.

The knowledge of life expectancy, elderly population and living arrangement in Nigeria was average among respondents.

Knowledge and Attitude on Elderly Health Policy Care and Nutrition.

The attitude on elderly health policy in Nigeria by respondent reveal that majority (70%) of the respondents strongly agree that there should be a health policy specific for elderly in Nigeria. Only 3% are not so sure while 4% disagree with the idea. Nearly all the respondents agree on government intervention on elderly care (99%) (Table 3). Although Nigeria have a national policy on elderly who promote the well being up till now there is little awareness on many Nigerians. This is partially due to poor funding at national and state level. Both government as well as nongovernmental organisation should pursue the implementation of health policy for elderly in Nigeria.

In regard to health, nutrition of elderly is very crucial. Thus, the knowledge of undergraduate toward the nutrition and health of elderly illustrates that majority especially those with food science and nutrition background have a good score (99%). However, a contrast occurred with those without nutrition background; where 62% has a poor score and 38% have in a good score. The knowledge of nutritional needs of elderly revealed that the majority has the understanding of adequate minerals and vitamins and adequate intake of fiber. More than half recognized that Body Mass Index decreases with age ; eat small quantity at short intervals and that changes in physiological state affect nutritional status (Tables 4a&b).

Summary and Recommendations.

This study has revealed that some undergraduate has a good knowledge of the elderly population but about half are yet to have good knowledge. Although majority has information on the diet, method of cooking, and nutrition some are thus far lack the basic education on the specific nutrient needs of the elderly. There is a correlation between the knowledge of ageing and elderly nutrition ($r = 0.23$; $p<0.05$).

Recommendations.

Curriculum Review.

In view of the poor score of some undergraduate on knowledge of the population ageing there is a need to create more awareness through the curriculum. The undergraduate and the entire population must be conscious of elderly and be ready for a healthy life in elderly stage.

Curriculum review at health institutions and Colleges in Nigeria and Africa.

A multidimensional solution is required to care for the elderly, maintain values and introduce modern technology for the healthy independent life of elderly. The curriculum should include the study of gerontology in all health institution to understand the ageing process and life long needs. This curriculum must arouse the interest of health workers in care of elderly and provide an excellent education on health and nutrition of elderly.

Skill Upgrading and short courses for trainers in health and related subjects.

In Nigeria and most part of Africa, health workers trainers, , teachers and professors are not well equipped to address the need of elderly whose number continue to grow at an unprecedented rate.

Research on Ageing and Elderly health and Nutrition.

The government and non government organizations must be ready to fund research on ageing that will develop high quality geriatrics care. Such research can include dietary requirement use of local food stuff and nutritive values- antioxidants and micro nutrients, malnutrition, vitamins and mineral requirements to maintain healthy living. Researches on quality of life, functional declines, socio cultural, economic, retirement, family health and other multiple complex medical issues.

Awareness Advocacy and Information specific for elderly.

Awareness for more understanding, knowledge and the situation of the elderly in Nigeria. Thus, measures should be introduced, and programmes implemented and promoted to improve lifestyle of the elderly in Nigeria.

Nigerians must improve attitudes towards the elderly and to mobilize action at all levels of government and civil society towards enhancing, in a sustainable manner, the care, security and well-being of the elderly, nationwide.

The principal targets of such measures will include government and relevant government agencies at all levels; the society at large; the younger generation, the presumed care givers; family networks; communities and community associations, Non-Governmental; the mass media; and local and international human development agencies.

This step will raise consciousness of the situation of the elderly and inspire action at all levels for ensuring sustainable improvement in their care, security and well-being, nationwide;

In addition, the implementation on elderly consciousness and actions will increase the effective access to basic amenities thus independent life and increased life expectancy.

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REFERENCES

Elbon SM, Johnson MA, Fischer JG. 1996.Developing an instrument to measure the influence of knowledge, behaviours and attitudes on milk consumption patterns in older participants of a community wellness group: a pilot study. *Journal of Nutrition for the Elderly*, 15(4):21–37.

Engle PL, Menon P, Haddad L. 1997. Care and nutrition: concepts and measurement (occasional paper). Washington, DC: International Food Policy Research Institute.

Falkingham J, Evandrou M, McGowan T, Bell D & Bowes A. 2010. Demographic issues, projections and trends: Older people with high support needs in the UK Joseph Rowntree Foundation. ESRC Centre for Population Change.

Fajemilehin BR. 2013. Structure of Trans-disciplinary and Integrated Programmes in Gerontology and Geriatrics. Paper presented at the National University Commission, 2-day consultative meeting on Post graduate Programme of Gerontology and Geriatrics. Abuja. Nigeria.

Holmes S. 2004. What do we know about nutrition and older people? *Journal of Family Health Care*, 14(6):153–155.

National Population Commission/Macro (NPC) 2006**.** Nigeria Population. The Elderly**.** Abuja, Nigeria. Chapters 5 and 7.

Moynihan PJ. 2007. The nutrition knowledge of older adults living in sheltered housing accommodation. *Journal of HumanNutrition and Dietetics*, 20(5):446–458.

Olaitan SO, Ali A, Eyoh EO, Sowande KG. 2000. Research Skills in Education and Social Sciences. Bauchi: League of Researchers in Nigeria.

Olayiwola I.O., Olusanya E.O and A.O Ketiku. 2004. Nutritional vulnerability, Food habit and anthropometric indices of the elderly in southwest of Nigeria. West African Journal of foods and Nutrition.7:1: 46-52

SCN (Subcommittee of nutrition), 1999. United Nation Nutrition Forum. Healthy Ageing. 19:2:14-20.

Shepherd R, Towler G. 2007. Nutrition knowledge, attitudes and fat intake: application of the theory of reasoned action. *Journal of Human Nutrition and Dietetics*, 20(3):170.

UNPF (United Nation Population Fund) 2012. Building a knowledge base on population Ageing in India; Report on the status of elderly in selected states of India. JNFPA. New Delhi.

WHO 2010. Nutrition for older persons. World Health Organization [website] (http://www.who.int/nutrition/topics/ageing/en/index. html accessed 18 April 2010).

WHO 2012. Nutrition for older persons. Ageing and nutrition: a growing global challenge http://www.who.int/nutrition/topics/ageing/en/index.html

World Bank. 2002. Nutrition: A Foundation for Development. The Links between Nutrition and Demographic Change – Brief. 03 of 12 – Nutrition and Population.

Table1: Socio-demographic Characteristics of Respondents.

Variables	Frequency	Percentage
Age		
16-19	160	32.
20-24	300	60
25-28	35	7
29-35	5	1
Total	500	100
Gender		
Female	345	69
Male	155	31
Total	500	100
Ethnic group		
Yoruba	340	68
Igbo	160	32
Total	500	100
Religion		
Christianity	415	83
Islam	85	27
Total	500	100
Marrital Status		
Married	25	5
Single	435	87.
Divourced	10	2
Others	30	6
Total	500	100

Source:Field Data,2013.

Table 2: Knowledge on Population Ageing.

Variables	***Frequency***	***Percentage***
What age does elderly start		
35	50	10
40	70	14
50	160	32
60	220	44
Total	***500***	***100***
Awareness and information on Pension scheme in Nigeria.		
Have awareness and well informed	325	65
No awareness	175	35
Total	500	
Elderly women out number men		
False	50	10
True	450	90.
Total	***500***	***100***
Transition is at 2nd stage in Nigeria.		
False	125	25
True	375	75
Total	***500***	***100***
Life expectancy is increasing in Nigeria		
False	115	23
True	385	77
Total	***500***	***100***
Illiterate elderly men > women in Nigeria.		
False	215	43
True	285	57
Total	***500***	***100***
Elderly in Nigeria exposed to insecurity		
False	40	8
True	460	92.
Total	***500***	***100***

Source:Field Data,2013

Table3: The Attitude towards health Policy of Elderly People

Variables	*Frequency*	*Percentage*
Do you support policy for elderly		
Strongly agreed	350	70
Agreed	120	24
Disagreed	15	3.
Strongly disagree	15	3
Total	***500***	***100***
Do the elderly need government intervention		
Strongly agreed	340	68.0
Agreed	150	30
Disagreed	5	1
Strongly disagree	5	1
Total	***500***	***100***
Elderly need free medical check up annually		
Strongly agreed	350	70
Agreed	80	16
Disagreed	60	12
Strongly disagree	10	2
Total	***500***	***100***

Source: Field Data, 2013.

Table 4a: Knowledge on a healthy Diet of Elderly.

Variables	***Frequency***	***Percentage***
Which is healthy for elderly?		
Diet rich in various food groups	310	62.0
Do not know	190	38
Total	***500***	***100***
Which is the healthiest cooking method		
Cooking on grill or boiling	255	51.
Do not know	245	49
Total	***500***	***100***
Elderly needs small frequent meals		
False	20	4
True	480	96.
Total	***500***	***100***
Elderly should reduce alcohol		
False	5	1.
True	495	99
Total	***500***	***100***
Daily Healthy food for elderly		
Washed vegetables and fruits	440	88.0
Do not know	60	12
Total		***100***

Source:Field Data,2013.

Table 4 b: Knowledge of Nutrition of Elderly.

Variables	Frequency	Percentages
Elderly needs vitamin/mineral		
False	35	7.
True	465	93
Total		***100***
Physiological changes affect nutrition in old age.		
False	185	37
True	315	63.
Total		***100***
Body Mass index decreases with age		
False	75	15.
True	425	85
Total		***100***
Elderly need fibre to stay healthy		
True	***330***	***66***
False	***170***	***44***
Total		***100***
Elderly needs nutrition education		
False	40	8
True	460	92
Total		***100***
Physical exercise improve elderly Nutritional status.		
False	***250***	***50***
True	***250***	***50***
Total		***100***

Source:Field Data,2013