

Dietary Intake and Nutritional Status of the Elderly in Osun State (2)

Alao, M.T¹, Akinola, O.O², Ojofeitimie.O

¹School of Nursing and Public Health, University of Kwazulu-Natal, Durban. South Africa.

²Nutrition and Dietetics Department, Federal Polytechnic Ede, Ede, P.M.B 231, Osun State, Nigeria..

Abstract: The study compared the dietary intake and nutritional status of the elderly attending geriatric day care centres and those who did not in Ile-Ife and Imesi-Ile both in Ife-Ijesenatorial district of Osun State. It was aimed at examining the relationships between income, acute diseases and food intake on dietary intake and nutritional status of the elderly people. A total of four hundred and eighteen elderly respondents were recruited for the study through a snowballing sampling technique. One hundred and thirty two elderly attending geriatric day care centres were recruited as study group and 318 who do not attend any of the centres were recruited as control group. Data was collected by using a twenty-item questionnaire adapted from Nestle Mini Nutritional Assessment (MNA) scale.

Findings revealed that more (9.1%) of the respondents in the study group were undernourished, and 25.9% of the respondents in the same group were overweight. There was no significant difference in the nutritional status of respondents from both groups ($X^2=2.25$, $p= >0.05$). This study concluded that attendance of geriatric day care centres and income conferred no added benefit on the nutritional status and dietary pattern of the elderly.

Keyword: Aging, Gerontology, Geriatrics, Elderly, Nutritional status.

I. Introduction

Elderly people in developing countries are vulnerable to health related predicaments associated with near to the low incomesociety, poor eating pattern, under nutrition, overnutrition, chronic illness and diseases (WHO, 2009, Oldewage-Theron et al., 2005). Poverty remains a major contributory factor to many of the dietary related disorders among the elderly (Ogden et al., 2006 and WHO, 2009). Nutritional status of the elderly is influenced by the ageing process (Oldewage-Theron, Samuel and Djoulde 2009). Malnutrition is a common problem among older people living in geriatric nursing homes (Saeidlouetal, 2011). This affects 37% of institutionalized elderly in Europe (Guigoz et al., 2002). Malnutrition in the elderly may be associated with diseases, social and financial conditions, and frequent hospitalization, functional status, psychological conditions, drugs and diminished sense of taste, smell a (Arellano etal,2004; Marais and Labadarios, 2007; Genser, 2008).This can be worsen with the possibilities associated with chronic diseases of lifestyle (Mathey, Zandstra, Graaf and Staveren, 2000;Solomons, 2001).

Most elderly people (60+) are prone to the consumption of fatty and sugary foods because they are most affordable and tasty (Canon, 2001). They are also vulnerable to abuse and neglect from family members and caregivers (Steyn and Temple, 2008). Income is another major hindrance for the elderly people to eat well and have normal nutrition (Bohmanet al., 2007; Ferreira, 2004; Ogunmefun, 2008; Ogunmefun and Schatz, 2009). Therefore, the great role of nutrition in the maintenance of the health and functional rehabilitation of the elderly has awakened public interest and research. While only little information is available about them in literature in Nigeria (Ojofeitimi et al, 2002).

II. Materials And Methods

This is a comparative study of institutionalized and non-institutionalized elderly were recruited from two geriatric day care centres in Ile-Ife and Imesi-Ile, Osun State Nigeria. The elderly at Ile-Ife meet regularly on Monday afternoons at No 14 Olumogbe off Ilare Street Ile-Ife. They were compared with other elderly people who do not attend any geriatric centres from these communities.

Sample

A total of 418 elderly people were recruited for this study. One hundred and thirty two132 elderly people attending the two institutionalized centers who gave consent to participate in the study were recruited as study group and 286 other elderly people who were not attending any of the centers and with minimal or no exposure to the education given to the earlier group were recruited into the study through snowballing sampling technique as controls.

Instrument for data collection

Responses from the respondents was elicited by using a 20 item semi structured questionnaire adapted from Mini Nutritional Assessment (MNA) form designed in three sections, with section A containing demographic data such as age, sex, occupation, weight, height, and average monthly income. Section B serves is a screening tool to identify the elderly at the risk of malnutrition or who were malnourished while section C is the nutritional assessment tool, qualitative assessment of the food consumed by the elderly.

Each of the respondents were weighed while wearing light clothing, bare footed, not carrying heavy objects such as bunch of keys and the scale calibrated to the nearest 0.1kg, with the use of a standard portable bathroom scale (UNICEF/Salter®). The reliability of the measuring instrument was checked after every 10th person by recalibrating the scale. Height was measured by using a stadi-o-meter (UNICEF/Raven Equipment Ltd) and determined to the nearest 0.1cm and used to calculate the Body Mass Index (BMI) according to WHO classification (WHO, 2000).

Validity of the instrument was based on the pilot study carried out on 20 free-living elderly people in Ifewara community.

Data analysis

Data collected was analyzed by using ~ EPI INFO nutrition software (version 2000) personal computer with standard deviation, student t - test and Chi-square (X^2) at significance level of 0.05%

III. Results

Table 1: Demographic Characteristic Of Respondents

Sex	Non institutionalized Institutionalized		
	N%	N	%
Male	13948.95	238.5	
Female	14751.18	061.5	
Total	286100	132100	
$X^2 = 2.73, df = 1, p = 0.98$			
Mean Age in year	AGES.DAGES.D		
	70.57	269.5	7.4
Median monthly income in Naira	AmountRangeAmountRange		
	6000.00	400.00-12,000.00	6100.00-30,000.00

$X^2 = 0.38, df = 1 p = 0.5$

Table 1 show that the respondents from both groups were not significantly different in term of sex age and income. Although, majority of the respondents from both groups are male.

Table 2: Distribution Of Respondents By Monthly Income

Monthly income in Naira	n = 418
Frequency %	Frequency %
< 5000	002619.77225.2
5000 -14999	008967.415253.1
15,000 & above	1712.96221.7
Total	132100286100

$X^2 = 8.06, df = 2, p = 0.02$

In the table 2 the average income of the respondents in the study group (67.4%)was more than that of control group.

Table 3: Distribution Of Respondents By Body Mass Index

BMI	n= 418
Frequency%	Frequency%
< 18.5 (Under nutrition)	129.1175.9
18.5–24.9 (Normal)	7355.315052.4
25–29.9 (Overweight)	2922.0 7425.9
> 30 (Obese)	1813.64515.7
Total	132100286100

$X^2 = 2.25, df = 3, p = 0.52$

Body Mass Index (BMI) of the respondents across groups is not significantly different.

Table 4: Relationship Of Income With Nutritional Status Ofthe Respondents In The Study Group

Monthly income in Naira	BODY MASS INDEX			
	n = 418			
	Study n= 132		Controls n=286	
	<18.5	18.5-24.9	25-29.9	>30
<5000.00	6	55	25	18
5000.00 – 14,999.00	10	85	46	25
15000.00 & above	1	10	3	2
TOTAL	17	150	74	45

$X^2 = 3.938, df = 6, p = 0.685$

$X^2 = 1.354, df = 6, p = 0.969$

Table 4 indicates that there is no significant difference between income and nutritional status of the respondents in both groups.

IV. Findings

The respondents from both groups had normal weight 73 (55.3%) and 150 (52.4%) from the study and control groups respectively. No significant difference was noticed in the nutritional status of respondents in both groups as shown in table 3 ($p = 0.52$). BMI of the majority of the respondents in both groups fall within normal this indicate that food consumption of the elderly meet their body requirement only few of them complained about decline of appetite. Barr (2003) stated that food and nutrition contribute to one's physiologic, psychological and social quality of life which may be as a result of some factors such as nutrition well- being, religion, living arrangement, physical activity, social interactions, disease management, physical mental, emotional functioning impacting the quality of life of adult 60 years and older (Kuczmarski and Weddle, 2005).

The study shown that some of the respondents were overweight and obese, this study support Nancy, etal (2008) prevalence of obesity has increased in all ages, older adults are no exception, obesity rates are greater among those ages 65 to 74 than among those age 75 and over and over and obesity is associated with increase in mortality and contribute to many chronic diseases. Care needs to be taken to give due consideration to changes occurring in the elderly people as ageing sets in because of numerous changes taking as a result of ageing (Marais, Marais and Labadarios, 2007).

Although, few of the respondents reported severe decline in their appetite, 5.8% and 7.3%% of the respondents in the study and control groups respectively reported severe decline.

It is evident from the result of the study, the self reported acute diseases exerted significant relationship on the state of appetite of respondents from both groups. Loss of appetite could be as a result of sensory loss that affect at different ages, genetics, environment and lifestyle are all part of the decline in sensory competence and age related alterations to the sense of taste, smell, and touch that would lead to poor appetite and invariably lower the nutrient intake. (Finkelstein and Schiffman, 1999), this also in agreement with works of Mates (2002), who said that decrease in appetite are common in adults age 70 and older who may not eat enough to meet energy needs this phenomenon is a problem for older people in particular because it increases the risk of nutrition related illness, there is the need to pay attention to diet of the elderly in order to minimize nutritional associated risks like hypertension and cardiovascular disorders (Fraser, 2003). The study confirmed that the respondents reported the cases of diseases are those with low income.

Low income of the elderly is inadequate to sustain their demand of meeting up with other needs (Marais, Marais and Labadarios, 2007).

It is also noticed from the result of the study that income exerted a significant effect on the nutritional status of respondents from both groups $p = 0.69$ and $p = 0.97$ for the study and control groups respectively as shown in tables 4. This agrees with previous findings that poverty and economic uncertainty have been proved in previous studies as a strong indicator for nutritional risk and food insecurity among the elderly population (U S Department of health and Human Services, 1999). Income remains a strong determinant in the choice of food consumed by the respondents.

V. Conclusion

It is quit visible from the result of this study that the elderly / older adults demand proper attention and care because aging is a normal biological process. This involves some decline in physiologic function. However, organs change with age and must commensurate with nutrient intake so as reduce degenerative diseases in old age. This study suggest more effort should be made to increase level of social interaction and food security as to improve nutritional status of the elderly.

VI. Recommendations

The government and other stakeholders should be monitoring the health of elderly people periodically to identify those at risk for prompt action to be taken and a social security system to cater for the income and welfare of the elderly should be established by the government at all levels to reduce mortality rate of elderly.

References

- [1]. Arellano M, Garcia- M.P, Caselles M, Pi-FiguerasM, MirallesR,Torres R.M, Aguilera A,and.Cervera A.M(2004). Clinical impact on different scores of the Mini Nutritional Assessment (MNA) in the diagnosis of malnutrition in patients with cognitive impairment, Arch. Gerontol. Geriatry. Suppl. 9, 27–31.
- [2]. Bohman D.M, Vasuthevan S, VanWyk, N.C, andEkman S.L(2007). “We Clean OurHouses, Prepare for Weddings and Go to Funerals”: Daily Lives of Elderly Africans in Majaneng, South Africa. Journal of Cross-Cultural Gerontology. 22, 323–337.
- [3]. Cannon G(200).Diet-related chronic diseases. Focus, 5 (brief 8 of 11), 2001, 1-2.
- [4]. Ferreira M(2004).The social old age pension: A fundamental gift of economic and social power to older persons. Les Cahiers de la Fiapa, Vol. 2 (Grey Power? Economic and Social Influences), pp. 158–166.
- [5]. Genser D(2008) Food and Drug Interaction: Consequences for the Nutrition/Health Status. Annals of Nutrition and Metabolism. 5, 29-32
- [6]. Guigoz Y,LauqueS,andVellas BJ (2002). Identifying the elderly at risk for malnutrition, The Mini Nutritional Assessment.ClinGeriatr Med, 18, 737–757.
- [7]. Marais M.L, Marais DandLabadarios D (2007) Assessment of the nutritional status of older people in homes for the aged in the Somerset West area, South African Journal of Clinical Nutrition 20 (3), 102-108.
- [8]. Ogden C.L, Carroll M Curtin McDowell M, Tabak C andFlegal K (2006). Prevalence of overweight and obesity in the United States 1999–2004, Journal of the American Medical association. 295 (13), 1549–1555.
- [9]. Ogunmefun C(2008)The impacts of adult HIV/AIDS mortality on elderly women and their households in rural South Africa.Unpublished manuscript, Johannesburg; South Africa.,
- [10]. Ogunmefun C and Schatz E.(2009) ‘It’s Difficulty I Didn’t Recover’: The Socio-Economic Impact of HIV/AIDS Morbidity and Mortality on Older Women in Rural South Africa. Development Southern Africa. 26 (1), 95-109.
- [11]. Ojofeitimi E.O, IjadunolaK.TJegade V.A, Freeman Y.A .Owolabi Y.A, Freeman Y.A,Pedro T.M and Fabiyi A.K.(2002). Nutritional Status and Physical Activity in Relation to Cognitive function in a group of elderly in Nigeria. Journal of Nutrition for the Elderly, 22 (1), 40-61.
- [12]. Oldewage-Theron, W.H, Samueland F.O, Djoulde R.D(2009).Serum concentration and dietary intake of vitamins A and E in low-income South African elderly, Clinical Nutrition. 29(1), 119-123.
- [13]. Saeidlou S.N, Merdol T.K, MikailiP, and Bektaş (2011). Assessment of the nutritional status and affecting factors of elderly people living at six nursing homes in Urmia, Iran. Journal ofAcademic Research 3(1), 173-182
- [14]. N.W.Solomons (2000). Health and aging. Focus. 5 (brief 9 of 11), 1, 1-2.
- [15]. Nancy W. and Barbora J.K (2008). Nutrition in aging krause’s Food and Nutrition Therapy 286-308 12 edition Saunders publisher.
- [16]. Kuczmarski M.F and Weddle D.O.(2005). ADA Position statement: Nutrition across the spectrum of aging. J.Am Diet Assoc 105-616.
- [17]. Barr J, and Schumacher G. (2003). Using focus group to determine what constitutes quality of life in clients receiving medical Nutrition therapy: First steps in the development of a nutrition quality of life survey. J.Am Diet. Assoc 103- 844.
- [18]. Mates R. (2002). The chemical sense and Nutrition in aging: Challenging old assumption, J.ADA 102-192.
- [19]. Finkelstein J.A, Schiffman S.S (1999). Workshop on taste and smell in the elderly: an overview, Physiology behav. 66-173.