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Investigating The Eating Habits Of The Aged Between 70 – 90 Years: A Case Study Of Jamestown Community, Accra - Ghana

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Abstract: ***There have been extensive researches in the eating habit in general and most this researches specifically focused on children. However, in this research the spotlight is on the eating habits of the aged between 70 – 90 years. This set of people are considered among the most vulnerable in the society; however, their wit and experiences which is needful for development cannot be overridden. The main hunch of the study was to establish the factors that influences the choice of food for the aged.***

Multiple methods of data collection were adopted for the study, as questionnaire, interview and snowballing were used to elicit responses from the respondents. A total of hundred respondents were conveniently sampled for the study.

The data obtained were analysed descriptively based on frequencies and percentages. Results were then presented in charts, frequency distribution tables and graphs. The evidence emerging from the study was that factors such as income levels, household composition, number of dependents, time of eating, the occupation of the aged, their ability to cook, their health, among others affect the eating habit of the aged. However, these factors influencing the eating habit of the aged are intertwined; in the sense that one cannot be singled out. The study therefore explores the said factors in unvarnished details and also make some salient recommendations. Some of these recommendations are: food choices are complex and culture specific, and thus more research should be conducted taking into account how ageing, socio-demographic, socio-cultural, environmental, behavioural and economic factors influence dietary habits of the aged; the nutritional need of most aged are not met due to several reasons therefore the government should open more elderly care homes and give them quality nutritious foods.

Keywords: Food Choices, Culture, Nutrition

I. INTRODUCTION

Adequate nutrition and good health are the rights of all individuals, which form the basis for the development of a nation. The elderly population forms a very heterogeneous group of people that vary greatly in their social, economic and lifestyle situations, functional capacity, and physical conditions. Due to these differentiating factors, each person ages at a different rate within cells and organ systems (Frankle and Owen, 1993). Thus, chronologic age is a poor indicator of physiologic age, as it is not always a measure of physical health and zest for life (Krinke, 2008). Aging cannot be stopped but the process can considerably be slowed down through healthy lifestyle choices and good eating habits (Ahluwalia and Ahluwalia, 2005; Reese, 2007).

The functional capacity and health of the elderly depend, to a greater extent, on their nutritional status and food security, which are the cornerstone in determining nutritional well-being. The International Conference on Nutrition (ICN), held in Rome in 1992, defined food security as 'access by all people at all times to the food needed for a healthy life' (FAO/WHO, 1992). The elderly are particularly vulnerable to food insecurity due to their reduced income and physical capabilities, as well as increased rates of some chronic diseases, which predispose them to poverty. The focus now is to increase the span of healthy life, that is, life that permits

independent function, not just a longer life (Frankle and Owen, 1993). This is expressed in the universal motto for applied gerontology as add life to years, rather than years to life. This concept is known, technically, as compression of morbidity (Fries, 1980) or the extension of the health span (Cinader, 1989). A nutritionally adequate diet is considered a critical component of a lifestyle aimed at promoting healthful and active aging (Bartali *et al*., 2003).

The impact of advancement in medicine, paramedical sciences and technology, is an increase in life expectancy globally (Roberts and Rosenberg, 2006). In 1989, WHO Expert Committee on the health of the elderly reported that by the year 2000 about 67% of the world's 600 million elderly people would be living in developing countries, compared with about 50% in 1960 (Barba and Rabuco, 1997). In Ghana, the situation follows a similar trend with about 5% of the population constituting the elderly; and this proportion is expected to increase in subsequent years (Ghana Demographic and Health Survey, 2003). What is alarming about these demographic trends is the reflex pattern of attending to maternal and child health to the exclusion of other population groups that need to be addressed (Solomons, 1997).

The growth of the elderly segment of the population is also challenging policy makers to provide them with an adequate level of social protection and security to prevent poverty, a supportive environment to promote a more active, healthy and independent process of ageing within society, and better and sustainable primary health care and nursing services. In consideration of the advent of non-communicable diseases (NCDs), such as cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases, costs for health care and nursing services for the elderly could become a very expensive exercise for ministry health budgets of all nations (Bloom et al., 2011). In furtherance, the National Health Insurance Scheme (NHIS) does not cover most of the NCDs that usually affect the elderly therefore, it is a herculean task in addressing the cost of health care for the aged between 70 – 90 years. To counteract the increase in costs, more emphasis should be given to disease prevention, which can be better understood by analysing risk factors impacting on the ageing population i.e., physical inactivity, use of cigarette, alcohol abuse and unhealthy diets. For example, knowing which factors influence the dietary choices of the elderly could help policy makers to promote healthy diets. Thus the aim of this research is to summarise the issues related to the eating habits of the elderly, analyse the factors influencing their dietary choices, and point out what policy makers can do to promote healthy eating within that demographic group.

There is increasing global interest in issues concerning the wellbeing of elderly persons, because the population of elderly persons is the fastest growing sector of world population. The population of Africans over 70 years will increase from 21.9 million in 1980 to 100.9 million in 2025, an increase by a factor of 4.4 compared to a factor of 2.1 for developed countries over the same period. The population of Africans over 60 years is reported to double by 2020 and those 75 years and over will increase by over 500% in West Africa hence the need to know much about the elderly age group which is bound to increase in number in the near future, and also put in place the necessary measures that will help improve the wellbeing of the aged (UN Department of Public Information 1996).

Nevertheless, the elderly has low economic status as a result of reduced work capacity. Many of them survive under the benevolence of family, community and charitable organizations. They are most unlikely to eat a balanced diet to meet the nutrient needs of their changing physiologic state. This makes them vulnerable to poor nutrition and health. Asenso-Okyere *et al*. (1997) attested that the elderly are mostly food insecure and this food insecurity spans across food availability, accessibility and utilization. The accessibility is an index, which includes the functional capabilities to obtain the food whereas the utilization considers the physiological ability to digest and assimilate nutrients for proper health (Bellin-Sesay, 2008; Ruel *et al*., 1998).

In Ghana, few studies have been done on the elderly. There are also no government-run institutions in the country that cater for the elderly; however, a few Non-Governmental Organizations (NGOs) have realized the plight of this vulnerable group and have set up centres where they visit to meet some of their daily needs. One of such centres is the Centre of Hope in Accra. The aim of this paper was to investigate the eating habits of the elderly since there are the vulnerable group in the country and moreover, there is few research works on the said study.

OBJECTIVE OF THE STUDY

The general objective of study is to investigate the eating habits of the aged between 70 – 90 years. Specifically, the study aims at exploring the following:

- ✓ To establish what determine the choice of food for the aged.
- ✓ To struck the relationship between choice of food and general health condition.
- ✓ Identify the daily diet and their nutritional value of the aged

II. REVIEW OF LITERATURE

Literature review is very essential because it espouses other researchers' opinion on the subject matter and also serve as a measuring rod for the researcher to compare and contrast the current knowledge that will be unravelled in this current research.

According to Kittler et al. (1998), the term *eating habit* (or *food habit*) refers to why and how people eat, which foods they eat, and with whom they eat, as well as the ways people obtain, store, use, and discard food. Individual, social, cultural, religious, economic, environmental, and political factors influence people's eating habits; and this chapter will throw more lights on these factors.

Nutrients are consumed through the food that we eat, and through metabolic processes in the digestive system these nutrients are absorbed at a cellular level in the body (Gibney et al. 2009). Optimum nutrition contributes to health, wellbeing, normal development, and high quality of life (Gibney et al. 2009). However, undernutrition, over-nutrition, and

malnutrition are linked to suboptimal health outcomes (Gibney et al. 2009). Such poor diets have been linked to the occurrence of chronic diseases, including cardiovascular disease, Type-2 diabetes, cancer, osteoporosis and anaemia (Lytle et al. 2002). For example, research reports that low intake of fruit and vegetables increases the risk for developing cancer (Steinmetz & Potter 1996), as well as cardiovascular disease (Hung et al. 2004), whereas low intake of dietary fibre has been linked to being overweight (Patrick et al. 2004).

NUTRITIONAL PROBLEMS OF THE ELDERLY

Public health literature investigates dietary problems of the elderly, with the objective of finding ways of improving the nutritional status of the ageing population. This inquiry is motivated by the robust observation that, as individuals become older, their eating habits tend to change in ways that, if poorly understood, may cause medical problems because they can be affected by malnutrition or obesity. (Koehler & Leonhaeuser, 2008).

MALNUTRITION

Chen et al., (2001) and Brownie, (2006) define under-nutrition or malnutrition as a state whereby these is insufficient macro and micronutrients to meet optimal physiological requirements. Malnutrition appears to be prevalent among 5-10% of independently living older individuals, 30-60% of institutionalized patients, and 35-65%of hospitalized patients (Brownie, 2006). Other empirical studies indicate that the undernourishment of the elderly seems to be a problem especially for those living in institutions. For example, in France and in the UK respectively 40% and 20% of the elderly living in institutions were found to be undernourished against 3% and 12% of those living at home (Raynaud-Simon & Lesourd, 2000).

According to Brownie (2006) the frequent overall decline in food intake among the elderly represents a prime concern, because under nutrition is an important predictor of morbidity and mortality. Brownie (2006); Harris & Haboubi (2005) continues that this lowers the quality of life of the elderly both in developed and developing countries. This is because a diet with insufficient calories can put the elderly at higher risk of acute illness and death (Seidell et al., 1996; Beck et al., 1999). Again, low levels of energy intake are associated with loss in muscle and body mass and as a result, a reduction of functional ability (Stookey et al., 2001; Knownet al., 2006). The weight loss phenomenon among the elderly, also called the 'anorexia of ageing' Donini et al., (2003), has been shown to be significant in the European Union (EU). Moreover, results from the extensive EU-funded SENECA (Survey in Europe on Nutrition and the Elderly; a Concerted Action) study on the nutritional status of the elderly, concluded that total energy intake, rather than diet composition, was more important for the preservation of health and ability to manage activities of daily living in old age (Schroll et al.,1996). Lack of vitamins and antioxidants is the most frequent and significant nutritional problem in older individuals (Ferland, 2003). Vitamin deficiencies such as vitamin B12, B6, and folic acid are responsible for cognitive impairment (Nilsson et al., 2001; Wells & Dumbrell, 2006). Nutritional antioxidants like vitamins C and E can reduce the incidence of Alzheimer's disease (Zandi et al., 2004), and low blood vitamin C concentrations are strongly predictive of mortality in patients aged 75–84 years (Fletcher et al., 2003). A diet rich in high levels of natural antioxidants such as tomatoes and citrus fruits can reduce the risk of cognitive impairment and dementia (Wells & Dumbrell, 2006).

FACTORS AFFECTING DIET HEALTHINESS

Malnutrition and obesity are essentially the consequence of long run food choices which often lead the elderly to have less varied and unhealthy diets. The choice of a healthy and a varied diet is challenging for people aged 70 and above because the ability to choose a diet which meets their nutritional needs may be adversely affected by the pathological, physiological, economic and societal factors that accompany ageing (Dean et al., 2009). A healthy and varied diet for the elderly should be based upon a limited intake of red meat but high in cereal, fruit and vegetable consumption (Bernstein et al., 2002; Hollis & Henry, 2007). Thus to better understand and solve nutritional problems of the elderly it is important to identify what these factors are and how they affect food choices.

FACTORS PERTAINING TO THE PROCESS OF AGEING

Numerous group of factors is related to the multiple physical and physiological changes determined by the process of ageing. As well as weakening the health status of the elderly, some aspects of the ageing process such as physical limitations, oral health, sensory changes, problems of cognition and diseases, also lead to elderly people's involuntary limitation of food choice. Physical limitations and frailty can negatively influence an elderly person's ability to shop, cook and eat and as a consequence their food choice and nutritional status (Bianchetti et al., 1990; Shatenstein, 2008). A large number of studies have investigated the link between oral health and nutritional status of the elderly in an attempt to test the intuitive idea, that masticatory efficiency influences dietary intakes.

Empirical research demonstrates the robustness of this relationship and supports the view that impaired oral health, by negatively influencing nutritional status, can result in increased exposure to a variety of risk factors for chronic diseases such as cancers, cardiovascular diseases, strokes and arthritis (Walls et al., 2000). As masticatory efficiency and the number of teeth decrease, the ability to chew is reduced and people avoid certain foods such as raw vegetables, nuts, and some fruits. To counteract this problem, food is overcooked or skin is removed from fruits and vegetables and thus a loss of nutritional values is unavoidable. As a consequence, the diet of the elderly with oral health problems might be characterised by a lack of important nutrients (fibre, antioxidants, vitamin C and E). In the presence of oral health problems, the lack of these micro nutrients is markedly reduced when compared to dietary reference values and thus can increase the risk of being susceptible to cardiovascular diseases and strokes (Moynihan et al., 1994). However, the strength of the relationship

between oral health status and food intakes has been questioned by several authors. For instance, Bradbury et al. (2008) recently concluded that while fruit and vegetable intake in their sample of edentulous and dentate individuals was associated with perceived chewing ability, the impact was modest, with other factors such as attitudes playing a more important role. This view also helps to explain the finding that improvement in chewing ability in the absence of dietary intervention has little effect on dietary intakes (Allen, 2005; Bradbury et al., 2006).

The sensory appeal of foods appears to be a key driver of the food choices of the elderly (Falk et al., 1996; Locher et al., 2008). It is well documented that the decline of gustatory and olfactory functions causes a decrease in the pleasantness of food among the elderly (Schiffman, 1993 and 1997; Westenhoefer, 2005). Furthermore, older adults have reduced 'sensory specific satiety', which describes the decrease in the pleasantness of a given food as it is consumed which drives the motivation to seek diet variety (Rolls & McDermott, 1991). Consequently, age-related chemosensory impairments have been postulated to be a primary influence underlying the anorexia of aging and subsequent changes in body weight and body composition (Hays & Roberts, 2006). Flavour enhancement of foods has also been shown to increase the overall food intake of elderly people, with concomitant positive effects on immune function and grip strength (Schiffman & Warwick, 1993). Quandt and Rao (2000) also noted that women, more so than men, report problems with oral health and digestion, the need for special diets, disease interfering with eating, and anaemia. As regards to specific diseases, dementia has been shown to have a profound effect on eating habits, with up to one third of sufferers eating an increased quantity of food compared to their pre-morbid intake at some stage of the disease (Keene & Hope, 1997). The disease also appears to affect the macronutrient composition of food intakes, with sufferers increasing the proportion of sweet foods and reducing the proportion of protein in their diet. The effect of specific disabilities such as Parkinson's Disease has been shown to be associated with weight loss (Chen et al., 2003; Kashihara, 2006) but the pathogenic mechanisms involved have not been elucidated yet (Cassani et al., 2011). In Sweden the loss of weight in individuals affected by Parkinson's disease has also been observed when the elderly increase energy intake (Lörefält et al., 2006). This apparent paradox could be explained by the fact that Parkinson's disease reduces fat absorption (Lörefält et al., 2006). In the US, Brewer et al. (2010) concluded that weight-related disability (e.g., arthritis, joint pain) and obesity may be associated with food insecurity in a sample of 621 older adults in the state of Georgia. The potential impact of Alzheimer's disease on food choices and nutritional status has similarly been investigated by comparing the diets of patients with and without the disease (Shatenstein et al., 2007). Findings highlight that the onset of the disease is typically accompanied by a decrease in dietary quality and lower energy intake. The impact of good cognition capacities on food choice is also confirmed in a large Italian population study where a positive association was found between diet quality and cognitive performance of the elderly (Corrêa Leite et al.,). A few studies have investigated the inverse relationship i.e., cancer can affect food choices and diet composition. In the USA, Reedy et al. (2005) analysing a sample of 22 individuals above the age of 50 with a history of colorectal cancer found that this disease can induce dietary changes among survivors. Specifically for the elderly, little research has been conducted, but Patterson et al. (2003) observed that among patients diagnosed with breast, prostate, or colorectal cancer, those older than 60 were less likely to make positive dietary changes i.e., increase in fruit and vegetable consumption and intakes of dietary supplements.

SOCIO - DEMOGRAPHIC AND ECONOMIC FACTORS

Few studies have explored how socio-demographic and economic factors (gender, household composition, age, education, and income.) can affect the choice of a diet. These results are difficult to disentangle because of the heterogeneity of international findings, research designs and interaction of these factors at various levels. As a result, the following analysis is an attempt to delineate the main aspects and patterns emerging from empirical research conducted by other researchers.

GENDER AND HOUSEHOLD COMPOSITION

Several studies show that women consume more fruit and vegetables than men and thus have a healthier diet because of their better awareness of dietary recommendations (Baker & Wardle, 2003; Donkin et al., 1998; Johnson et al., 1998). In general, the elderly person living alone shows a lower rate of consumption of healthy food than elderly individuals living together with men eating less healthily than women. For example, Hughes et al. (2004) found that men living alone have low intakes of fruits and vegetables, with very few achieving 5-a-day. However, elderly women living alone (widowed or never married) are more likely to belong to the lowest categories of income levels and, as a result, to the most disadvantaged groups and less likely to be able to buy sufficient food and to have a nutritious diet (Green et al., 2008; Herne, 1995; Klesges et al., 2001; Lilley, 1996).

Empirical research from the USA shows that the composition of households affects dietary intake (Burr et al., 1982; Horwath, 1989). Elderly individuals are more likely to have a balanced diet, both in terms of nutrient intake and variety, if they lived with their spouse (Davis et al., 1985; Fanelli & Stevenhagen, 1985). These findings are also confirmed by McIntosh et al. (1989) who found that married people had a higher intake of vitamins, minerals, protein and calories than those who were widowed or divorced.

However, larger households were more likely to be deficient in the amount of food energy and nutrients and thus at a higher risk of food insecurity (Hama & Chern, 1988). The importance of the structure of the elderly household is also confirmed in European studies where Donkin et al. (1998) observed that gender and the structure of the household affect the elderly's consumption of fruit and vegetables. In particular, they found that the mean of the five portions of fruit and vegetable consumption a day was lower only in the case of men living alone (2.66 against the general mean consumption of 4.1).

AGE AND EDUCATION

The process of ageing, as already highlighted in section 2.4.1, impacts negatively on the elderly health status and as a consequence on the quantity and quality of their food choice. However, this literature review seems to indicate that the elderly are treated as a homogenous group (i.e. 70 -90yrs) and thus there is a lack of studies exploring dietary differences between different age categories of the elderly. This difficulty is also confirmed by Irala Estévez et al. (2000) who performed a meta-analysis on eleven studies conducted in seven European countries from 1985 to 1999. In their study they found consistent differences in relation to the consumption of fruit and vegetables crossing education and gender. For example, the difference in daily fruit intake between men with the highest and lowest level of education was 24.3 g/person/day, while for females and daily intake of vegetables this difference was 17.0g/person/day. Interestingly, distances in daily intakes between the highest and lowest educated people appear to be higher for females in the case of fruit consumption and higher for men in the case of vegetable consumption.

A more varied diet among a group of older adults who were healthy and of relatively high socioeconomic status appears to be positively associated to higher levels of education (Drewnowski et al., 1997), while Donkin et al. (1998) found that education was only significant for vegetable consumption. The direct relationship between a lower level of educational achievement and a less healthy diet is also confirmed in a more recent study conducted by Nelson et al. (2007), who analysed data from the UK Low Income Diet and Nutrition Survey. They also observed that food security was higher for white than for black and minority backgrounds. These differences might reflect the diversity of traditional diets of different ethnic groups.

INCOME AND ITS RELATIONSHIP WITH SOCIO-DEMOGRAPHIC AND OTHER ECONOMIC FACTORS

Individuals belonging to higher status occupational groups consume more healthy foods such as fruit, salad and vegetables, whole meal bread and high fibre breakfast cereals (Herne, 1995). Thus the combination of low available income and high prices of healthy foods may well be one of the main causes of inadequate and poor diets among the elderly. In the UK, Mooney (1990) comparing diets meeting and not meeting nutritional guidelines found that 'healthier' diet was consistently costing more.

A qualitative study conducted in the USA (Falk et al., 1996), showed that the elderly were concerned about the high prices of fruit and vegetables as stated by one of the participants: "I had to give up the consumption of tangerines because I have to pay a dollar for four of them." Donkin et al. (1998) found that higher levels of income were positively correlated to fruit consumption.

Public health literature supports the view that healthy and varied diets tend to cost relatively more than energy-rich and nutrient-poor diets (Drewnowski, 2010; Deeming, 2011). Healthy foods such as fruit and vegetables cost more than a basket of junk foods (Capacci et al., 2012). As a result, food intake of the elderly decreases not only for the decline of their nutritional needs, but also because the income of the majority of the elderly is a pension which in many cases is not sufficient for subsistence (Garcia & Grande, 2010). Dean et al. (2009) conducting a survey in eight European countries (Poland, Portugal, United Kingdom, Germany, Sweden, Denmark, Italy and Spain) found that older people's variety of food intake was positively correlated to monthly income, access to a car and living arrangement. These findings are also confirmed in other US and European studies (Nord, 2003; Banister & Bowling, 2004; Sharpe et al., 2003).

Studies conducted analysing data from the 1990 Consumer Expenditure Survey showed differences in expenditure patterns. Wang et al. (1995), dividing the sample into retired and non-retired elderly households found that time spent working is negatively related to expenditures on food at home and is positively related to the demand for food consumed away from home. While Abdel-Ghany and Sharpe (1997), splitting the sample into households with a reference person aged 65-74 (young-old) and households with a reference person aged 75 and older (old-old) found that the young-old spent more than the old-old on food consumed away from home. Furthermore, the households of elderly married couples (working and the retired) spent significantly more on food consumed at home than single elderly women, while retired single men were shown to spend significantly more on food consumed away from home than single women (Rubin & Niewiadomy, 1994).

Sahyoun and Basiotis (2001) argue that while several studies show that poor diets are influenced by lack of economic resources, no studies have reported on the overall nutritional status of people who are food insufficient i.e. having an inadequate amount of food intake due to lack of resources. Analysing a sample of 3,865 elderly from the National Health and Nutrition Examination Survey they found that only about 3% of the sample had a poor diet in terms of quantity and quality and this was strongly related to poverty. Eighty percent of them had an income below 130% of the poverty level (the cut off for food stamp eligibility) and lower mean intakes than food secure people for several nutrients, vegetable and meat products. A low percentage of unsecure food people (6%) were also observed by Nord (2003) who analysed 1998, 1990 and 2000 data from the Current Population Survey Food Security Supplements.

However, using the Rasch measurement scale they found that the number of elderly who face food insecurity is underestimated because food security was measured on a Food Safety Scale which is difficult to interpret by the ageing population. The association between food insecurity, under-nutrition, poor health status and low income is also confirmed (McIntosh et al., 1989; Wolfe et al., 2003; Sharkey, 2008; Deeming, 2010; Homenko et al., 2010). Gundersen and Gruber (2001) have also shown that different time patterns of earnings impact negatively on the food security of low-income households. Income shocks cause dietary problems because when there are financial difficulties the elderly are more likely to cut food expenditure than reduce the amount of money destined to mortgages or house rent and car fuel (Gundersen and Gruber, 2001; Deeming, 2010).

SOCIO-CULTURAL, PSYCHOLOGICAL AND ENVIRONMENTAL FACTORS

In addition to ageing and socio-demographic factors, the food choices of the elderly are influenced by their traditions, skills, values, social resources (family and friends), psychological state, and physical environment. These factors are influenced by those discussed in the previous sections because as people retire their social network may reduce, as health fails, access to shops/market place and amenities may become a problem, and as people lose their living companions due to death of a spouse, cooking and eating circumstances may change. Also in this case, the net effect of socio-cultural, psychological and environmental factors is difficult to disentangle because their interaction with factors discussed previously compounds and affects food choice and the quality of life in several ways (Dean et al., 2008).

III. RESEARCH METHODOLOGY

A sample survey was conducted among the aged between 70 – 90 years in Jamestown, Accra. Purposive sampling approached and snowballing was adopted in this research as a sampling strategy. According to Sarantakos (1998) in purposive sampling, the researcher purposely chooses subjects, who in his/her opinion, are thought to be relevant to the research topic. Snowballing is also essential in this research because the researcher first of all liaised with some people close to the respondents before approaching them in order to let the respondents have a clear conscience to answer the questions. Without this process, some of the respondents might think the research work is being done for some ulterior motive or it is purposely conducted to victimize them through taxation and for that matter will either rebuke the researcher or provide answers which are untrue.

A total of 100 respondents were used for this study. Furthermore, Yamane (1967) suggested that the formula for the random sample is when N: is the population of sample, and e^2: is the probability of error. The sample size for this study has been calculated with e= 5% i.e. 95% confidence level. Again, questionnaires were administered to the respondents to source information on the topic. However, the questions in the questionnaires were read to some of the respondents that were unable to read because of eye related problems. Out of the 100 respondents, 56% were male and 44% were female. About 70% of the respondents falls within 70 -75 age group, 22% were between the ages 76 – 80 years, 6% between 81 – 86 years and the remaining 2% falls within 86 – 90 years. When it comes to the religious denomination of the respondents, 72% were Christians, 16% were Muslims and 12% were traditionalist (See Table 1). Questions pertaining to religion is very crucial because it does affect food choices and consumption of the people.

The survey instrument was first developed using literature review and consultations with food nutrition experts. A pretest of the questionnaire was then conducted among students in the Hotel Catering and Institutional Management Department at Accra Technical University y and the result was used to refine the instrument to improve its clarity and depth.

VARIABLE	FREQUENCY	PERCENTAGE (%)
Gender		
Male	44	(44%)
Female	56	(56%)
Marital Status		
Never Married	12	(12%)
Married	36	(36%)
Separated	8	(8%)
Divorced	4	(4%)
Widowed	40	(40%)
Age		
70 – 75 years	70	(70%)
76 – 80 years	22	(22%)
81 – 85 years	6	(6%)
86 – 90 years	2	(2%)
Religious Denomination		
Christianity	72	(72%)
Animist	0	(0%)
Muslim	16	(16%)
Traditionalist	12	(12%)

Source: Field Data, 2017

Table1: Socio-Demographics of Participants

Respondents indicated in radio buttons whether they are male, female or prefer not to say. To analyse the survey, the gender data was later coded as "1" for male, and "0" for female. Table 1 displays the items used in the questionnaire.

Each of the observable variables was measured by several questions. The items for each variable were checked for construct normality and reliability using SPSS. According to the central limit theorem, as long as the sample size is 30 or more; the sampling distribution would tend to be normal irrespective of the population distribution. The sample size used in this study was (100) which is large enough to satisfy the requirement of normality according to the central limit theorem (Field, 2009). Besides, the 100 sample size represented 40% of the target population (i.e. about 250 aged in Jamestown). A 40% sample ratio was much greater than the 5% threshold requirement for statistical adequacy to make inferences about the population. Meyer et al. (2005) purported that the larger the sample size used in the study, the more precise and stable the estimates of the population parameter would be for statistical inferences.

According to Kline (2011), a skewness level with absolute values greater than 3 are regarded as extreme and a kurtosis level with absolute values greater than 8 are described as extreme. When the acceptable level of skewness (3) and that of kurtosis (8) are violated, it suggests a problem that should be addressed before performing any inferential statistical analysis. The result showed that the maximum value for skewness was -0.245 and the maximum value for kurtosis was -1.980 Since the skewness values are lower than the acceptable level (3) and kurtosis values were lower than the acceptable level (8), the data appeared to be normal related to each of the indicator variables used in the study. The skewness and kurtosis values of the indicator variables are shown below in Table 2. Reliability refers to the degree of stability of the scale (Jackson et al., 1997). Reliability of the construct is

demonstrated by checking the Cronbach alpha for the items for each construct and the correlation among the items for the construct. Typically, a scale is said to be reliable if alpha is 0.70 or higher. Table 3 gives the validity and reliability indices for the questionnaire items for each variable. All the items had reliability coefficient higher than 0.816.

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Gender of Respondent	100	-.245	.241	-1.980	.478
Marital Status	100	.044	.241	-1.709	.478
Age of Respondents	100	1.832	.241	3.087	.478
Religious Denomination	100	1.465	.241	.676	.478
Valid N (listwise)	100				

Table 2: Descriptive Statistics

Case Processing Summary

		N	%
Cases	Valid	100	100.0
	Excluded[a]	0	.0
	Total	100	100.0

Cronbach's Alpha	N of Items
.816	4

Table 3: Reliability Statistics

IV. RESULTS AND ANALYSIS

The results gathered revealed that 26% of the respondents are actively working to raise money to make ends meet. Most of these set of respondents are into petty trading. The remaining 74% on the other hand are not working. Some of them are currently depending on their pensions and other investments they have made whiles in active service. Others are being catered for by their children while some rely heavily on the benevolence of others because of their inability to work based on health issues.

In addition, 56% of the respondents eat with their family while 44% do not. According to Dean et al., 2008, eating together with your family relieves from stress and also curb the tendency to over eat. Therefore, eating together with your family is a healthy eating habit and that can be said about the aged of Jamestown in Accra since majority of them eat with their family. Nevertheless, there is another school of thought that opined that eating together with your family is indeed a good thing but also laid emphasis on the need for the aged to eat their desired food rather than eating the same type of meal that has been prepared for the entire family which will be too junky (contain too much calories) for an old age.

In a nutshell, 92% of the respondents (that is the aged) agreed to taking their breakfast, lunch and super on daily basis which is very imperative. Their breakfast is mainly Hausa koko with koose. However, only 34% of them eat fruit on daily basis. 46% of the aged eat fruit once in a week, 18% eat fruit one in a month while 2% eat fruit once in a year. In brief, fruit eating habit among the aged is quite appalling since most of them do not eat fruit (which contains antioxidant, and also rich in vitamins and minerals that are useful to the body) on daily basis. In a nutshell, 92% of the respondents (that is the aged) agreed to taking their breakfast, lunch and super on daily basis which is very imperative. Their breakfast is mainly Hausa koko with koose. However, only 34% of them eat fruit on daily basis. 46% of the aged eat fruit once in a week, 18% eat fruit one in a month while 2% eat fruit once in a year. In brief, fruit eating habit among the aged is quite appalling since most of them do not eat fruit (which contains antioxidant, and also rich in vitamins and minerals that are useful to the body) on daily basis.

Figure 4 depicts the foods normally eaten during the breakfast among the aged, and from it, it is evident that most of the aged eat Hausa koko with koose during breakfast (i.e. 38%), 20% of the participants usually go for milo with sugar bread, while 16% of the participants eat rice porridge with whole meal bread during breakfast. 8% normally eat oat and buttered bread for breakfast, while the remaining 18% falls under others. The aged under others are those who specified different foods aside the ones stated in the questionnaires. Some of these foods are banku with okro soup, waakye and among others.

Furthermore, the reason why most of the aged go for Hausa koko and koose is that, it is readily available for purchase in the mornings and relatively cheaper compared to preparing food in the morning with its associated time constraints.

LUNCH AND SUPPER

Nevertheless, when the participants (aged) were asked to list the foods they eat during lunch time, most of them stated variety of foods but the food that was rife among the ones listed is kenkey with pepper and fried fish. Other foods that are also enjoyed are banku, rice and stew, fufu and many more. Most of the respondents espoused that kenkey and fish is their main food and for that matter they just enjoy eating. Some were also of the view that, kenkey is their cultural food that they have been raised with and for that matter, they prefer it to any other food.

Again, the same proportion of respondents also agreed to taking that above-mentioned foods in the evening too. Some said, they basically interchange the banku and kenkey and fish (i.e. as they eat kenkey and fish for lunch, they go for banku in the evenings and vice versa). Rice and stew, hausa koko and bread, indomie etc. are also part of the food some respondents eat during supper. The most imperative information gathered revealed that the aged eat their breakfast, lunch and supper on daily basis except some few who are on medication and special diet.

However, the only problem here is that most of them buy their food instead of cooking it themselves and this is not healthy since most roadside foods are prepared under unhygienic conditions whiles some also use unwholesome vegetables in the preparation of the foods.

A summary of the results revealed the numerous complexities that befogged the eating habit of the aged by pointing out the salient factors that affect the eating habit of

the aged such as income levels, household composition, number of dependents, time of eating, the occupation of the aged, their ability to cook, their health and among others. However, the aged in Jamestown, are diligent in adopting some of the good eating practices like eating on the standard time but the problem is that most of them resort to eating junky or heavy foods in the evening which is not good for their health taken into consideration their age. Again, just a few of them eat fruits on daily basis with majority unable to do so due to financial limitations. Lastly, most of them do not follow any special diet pattern due to poverty and also for the fact that some rely solely on the food that is prepared for the entire household. This too is inappropriate in the sense that at their age, they don't have to eat just any food hence the need to follow special diet that will address their health issues.

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the evidence emerging from the study, it is indicative that the elderlies in the study area may not be meeting their nutritional needs simply because of the factors espoused in chapter two. For instance, the findings revealed that most aged resort to autonomous dietary decisions due to economic factor (lack of money to purchase heterogeneous food products that will meet their nutritional needs) and cultural factors (that is, the continual eating of the local food – kenkey at large quantity at the peril of their health)

The study also indicated that just a few of the aged have fair knowledge on good nutrition. As a result of illiteracy, majority of the aged are clueless on what constitute good nutrition hence they eat for the purpose of feeling the stomach instead of eating diets that are rich in nutrient. The feeding pattern of the aged was two - three meals a day as they do not enjoy healthy snacks or desserts. This is woefully inadequate to meet their nutrient requirements.

Furthermore, findings seem to highlight that despite the fact that these factors have been presented separately they are strongly interlinked with each other. This reflects the fact that food choices are complex and culture specific, and thus more research should be conducted taking into account how ageing, socio-demographic, sociocultural, environmental, behavioural and economic factors influence healthy dietary habits of the elderly.

In addition, several studies are pointing out the importance of assessing heterogeneity of preferences among the elderly because several differences have been observed between the young-old (60-75) and the old-old (75-95). Thus more research should be conducted not only to avoid treating the elderly as a homogeneous group, but also to explore their behaviour differences in longitudinal studies.

Moreover, this literature review also highlights that despite the fact that a large body of work has been dedicated to identifying the predictors of food intake and nutritional status there is a lack of empirical research related to the phenomenon of resiliency (that is, the capacity of the aged to overcome structural changes in their physiology and continue to eat normally) in the dietary practices of older adults and to the influence of behavioural factors on the choice of healthy diets. The public health literature focuses on the negative consequences associated with the ageing process, psychosocial considerations and food intake, but without highlighting that some older adults continue to eat well despite these challenges because of their resiliency capacity. Heterogeneity of eating behaviour is also important from this point of view because not all older adults experience these changes in the same way and some of them exhibit resilience and overcome their food-related barriers (Keller et al., 2006). Thus it is important to understand dietary resiliency better because the dynamic capacity of the elderly to use adaptive strategies can enable them to maintain an adequate diet despite facing challenges related to the interlink between all the various factors highlighted in this review. This phenomenon has been explored by Vesnaver et al. (2012), who pointed out that little is known about why and how older adults develop these strategies and how they are used to the best advantage. In their Canadian qualitative study conducted administering 30 in-depth interviews they found that individuals can successfully adapt to age-related change and overcome great dietary obstacles even at very advanced ages. From their exploratory study they found that resilience towards dietary challenges such as food apathy, shopping, and meal preparation emerges from the combination of key factors: motivation (prioritizing eating well), personal resources (being able to do it yourself), and collective resources (getting help when you need it). This is certainly an area of research which deserves further theoretical and empirical work conducted implementing quantitative and experimental longitudinal studies.

Behavioural economics is another area of research which can contribute to a better understanding of the food choice of the elderly. Theories of inter-temporal choice based on an evolutionary perspective of the problem of time discounting and empirical research predict contrasting patterns at which young and old people discount the future (Trostel & Taylor, 1981; Green et al., 1994; Rogers, 1994; Sozou & Seymour, 2003; Read & Read, 2004), yet little is known about how the elderly behave. Despite the fact that the elderly have shorter time-horizons, there is no reason to think they are not subject to the same time inconsistent biases as the population at large. For instance, it could be argued that choices made in advance by the elderly with food stamps might be healthier than those made by the hungry shoppers tempted by the instant gratification offered by the boundless (unhealthy) delights on offer in the supermarket (Mancino & Andrews, 2007).

Nevertheless, consumers who are willing to add good foods to their diets might be reluctant to give up bad foods, making it difficult to reduce unhealthy choices i.e. endowment effect or loss of aversion (Kahneman et al., 1991).

VI. RECOMMENDATION AND DIRECTION FOR FURTHER STUDIES

- ✓ The current study covered only the aged in Jamestown in the Greater Accra region of Ghana. A similar study could be carried out in other communities to confirm or disprove the findings of this study.
- ✓ In order to generalize the results of the study to the district, it is suggested that three or more similar studies should be carried out in other communities in the region.

- ✓ The government should open more elderly care homes and give them quality nutritious foods.
- ✓ Diet for the elderly should be part of school curriculum.

Also, studies should be conducted into developing appropriate methods for meeting the nutritional needs of the aged.

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