UNIVERSITY OF EDUCATION, WINNEBA

NUTRITION AND THE HEALTH STATUS OF THE ELDERLY IN ATEITU AND WINNEBA ZONGO COMMUNITIES IN THE EFFUTU MUNICIPALITY

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A thesis in the Department of Home Economics Education, Faculty of Science Education, submitted to the School of Graduate Studies, University of Education, Winneba in partial fulfillment of the requirements for award of degree of MASTER OF PHILOSOPHY IN HOME ECONOMICS EDUCATION.

SEPTEMBER, 2017

DECLARATION

Student's declaration

I, Linda Atta-Boison, declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and that it has not been submitted in part or whole, for another degree elsewhere.

Signature:……

Date:……

Supervisor's declaration

I, hereby declare that the preparation and presentation of this dissertation work were supervised in accordance with supervision of thesis as laid down by the University of Education, Psychology and Education.

Supervisor's Name: Prof. Matthew Caurie

Signature:……

Date:……

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DEDICATION

I dedicate this work to God Almighty who has provided me strength and knowledge to complete it. I also dedicate it to my three lovely kids; Eugene Kwadwo Okyere, Theophilus Yaw Okyere and Georgette Awurakua Brago Okyere, and more importantly their father and my lovely husband for their understanding and forbearance as I left them on several occasions to pursue the Golden Fleece.

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ABSTRACT

The study sought to examine the nutritional practices and the health of the elderly in Ateitu and Winneba Zongo Communities in the Effutu Municipality. A sample of 100 elderly persons was selected for the study using the snowball sampling technique. Questionnaire, focus group discussion and observations were the instruments used in data collection. Statistical Package for Social Sciences (SPSS) for windows, version 16 was used in the data analysis. Responses from respondents were converted into frequencies and percentages for analysis to establish the extent to which the elderly in the area of study, take their meals and the effects on these meals on their health status. The main findings were that elderly citizens of Atietu and Winneba Zongo communities in the Effutu Municipality took breakfast and supper regularly and that about 4% of them did not take lunch mainly for financial reasons. Breakfast and supper were usually taken fresh while lunch usually consisted of pre - heated food. The elderly citizen of Atietu and Winneba Zongo communities had indigenous knowledge about nutrition and the relationship between the food they took and their health. For that reason, they made adequate provision of nutritious diet in their homes thus reducing the occurrence of diet related ailments among them. Based on the findings of the study, it is recommended among others that the Department of Home Economics Education, UEW, undertake an outreach or public education programme from time to time in this neighborhoods to sensitize the people, not only the elderly, on their diet, especially on the need to eat balanced diet and also to avoid overheating. The few elderly that did not eat regularly must be encouraged to eat thrice daily.

INTRODUCTION

1.1 Overview

It is a well-known fact that food is one of life's pleasures, whatever one's age. In addition to the enjoyment which we get from it, good food is also essential to keep us healthy and fit and to keep us full of energy. However, broad cross sections of medical professionals and nutritionists all over the world have expressed the view that nutritional needs change throughout life. For the elderly they affirm that these changes may be related to normal ageing process, medical conditions or life styles. In the United Kingdom and many other European countries nutritional assessment of the elderly is carried out from time to time to minimize chronic diseases and for healing (Caroline Walker Trust, 1995).

Health specialists agree that as people age, multiple changes occur that affect the nutritional status of the individuals. Sarcopenia or the loss of lean muscle mass can lead to a gain in body fat that may be apparent by measuring body weight. It may be more noticeable by loss of strength, functional decline and poor endurance. This loss leads to reduced total body water content, according to Tabloski (2006). Another common loss related to ageing is change in bone density which can increase the risk of osteoporosis.

Again it is known that many changes occur throughout the digestive system. For example a decrease in saliva production, xerostomia, and changes in dentition alter the ability to chew and may lead to changes in food choices. There is also a decrease in gastric acid secretion that can limit the absorption of iron and vitamin B12. With ageing peristalsis becomes slower and anticipation may be an issue because fluid intake is decreased. Appetite and thirst dysregulation also occur, leading to early satiety and a blunted thirst mechanism. Sensory changes affect the appetite in

several ways. Vision loss makes shopping, preparing food and even eating more difficult. Diminished taste and smell take away the appeal of many foods and may lead to preparing or consuming food that is no longer safe.

In terms of nutritional needs of the elderly, Culross (2008) maintains that the overall nutritional requirements of the older adult do not change. What does change is the caloric intake. Because of the loss of lean muscle mass, the overall caloric intake requirements decrease while the need for other nutrients remains relatively unchanged. This makes eating nutrient dense food even more important for older people, stresses Culross (2008). The nutrient requirement for older adults includes increased intake of Vitamins D, B12, B6, and Calcium. Among these Vitamin B12 is recommended exclusively to those over the age of 50 as a supplement because of the decreased absorption rates. Vitamin B12 deficiency can be responsible for depression, neurological disorders and macrocytic anemia.

The same source intimates many people are of the view that protein intake needs to be increased with ageing. However, Culross (2008) maintains that, unless the older adult requires additional protein for healing and strength, increased protein intake is not really the case.

Culross (2008) supports her argument with a publication by Tufts University. According to her, the University developed a modified "My Pyramid for Older Adults" that was published in the January, 2008 issue of the Journal of Nutrition. The pyramid emphasizes eating nutrient–dense foods, the importance of fluid intake and activities that may be typical of the older age group .The modified pyramid also suggests that supplements for nutrients such as calcium and vitamin D and B12 may help people meet their nutritional needs when food alone does not yield adequate amounts. Anspaugh, Hamrich and Rosetz (2003) in their book Wellness, Concept and

Application confirm the assertion of Culross (2008) when they wrote that the relationship between nutrition and health has changed dramatically during the last 50years. In their view the deficiency diseases of the past such as scurvy and rickets have been replaced by diseases of dietary excess and imbalance. Chief among such excesses is the disproportionate consumption of food high in fats often at the expense of foods that are high in complex carbohydrate, fibre and other substances conducive to good health.

These findings may have been made with reference to the developed countries, but they apply equally to developing countries. Ateitu is a new settlement in the outskirt of Winneba in the Effutu Municipality of the Central Region of Ghana. A large percentage of the population of Ateitu and Winneba Zongo is made up of pensioners who are afflicted with one form of health problem or the other. Rarely can one read a daily newspaper in Ghana or watch television without seeing a story about Ghana's souring health care problems or about seriously ill or injured people who are unable to pay for their medical bills and are therefore appealing to benevolent organizations and individuals for assistance. One group of people who are vulnerable in this regard is the elderly those aged people who have passed the compulsory retiring age of 60years.

The World Health Organization (W.H.O) defines health as a state of complete mental and social, well-being and not merely the absence of diseases or infirmity. Achieving good health is thus one of the goals of any human being .This goal can be achieved mainly through proper management of one's resources. As Rice and Tucker (1986) point out management is man's effort to manipulate situations, circumstances, conditions resources as well as other factors to achieve one's goal or what one desires. Management involves planning and decision-making with the view to actions to

achieve desired ends or goals. Some of the actions may involve postponing spending now in order to save towards the future. The need for good food and exercises for elderly has been articulated by a number of writers. Kings and Burgess (1993) assert that good food helps older people to stay healthy and active for a longer time and to resist infections. They explain that as people grow older they are usually less active and need less energy.

However, they still need plenty protein, minerals (especially calcium) vitamins and fibre. The iron needs of women decrease when they stop menstruating. Older people in general need less staple foods, fats and sugar than younger adults but they should have their fair share of legumes, milk, eggs, vegetables and fruits. A study by the New Zealand Ministry of Health (2013) corroborates the assertion made by Kings and Burgess (1993).

According to the New Zealand Ministry of Health (2013) report, older people have special need for nourishing food and that food for the elderly has to be carefully chosen and properly prepared and must be balanced. The Ministry's report further points out that since elderly people are less active and use less energy they do not need as many calories as younger people by using less margarine, cooking oil, other fats, sugars, sweets and starchy foods. The two sources discussed above point out that some old people in the tropics are well fed because they live with their families who respect and care for them. However a large percentage of old people in the tropical world are under nourished. As a result they are thin, anaemic, and lack nutrients such as vitamin A. Some are obese or have heart diseases or diabetes. Some are alcoholic and are in general at the risk of under nutrition. The explanation for this development is as follows.

1. The older people and their families cannot afford to buy the good food that they need.
2. They have to care for and support many grandchildren.
3. They live alone and have no relatives to help them, and care for them.
4. They live in homes which do not provide good meals.
5. They have lost their teeth and find it difficult to eat food which needs to be chewed.

These factors pose a challenge to the health of the elderly people (Moody, 2009). Left on and Valvatne (1998) also agree with Rice and Tucker (1986) that as people grow older they age experientially as well as physically. This means the older people gather experience and expand their worlds as they grow older. In addition, their health begins to fail, making their life precarious at times.

Lefton and Valvatne (1992) add that the negative attitudes of people around the elderly complicate their lives. The result of this development is that the blood pressure of the elderly rises, cardiac output decreases and the likelihood of stroke increases. One major impact of this deterioration in health is that cardio vascular disease reduces intellectual functioning by decreasing blood flow to the brain, making it impossible for elderly persons who suffer from this condition to function maximally as far as intellectual work is concerned.

According to the Municipal Chief Executive (MCE) of Effutu, Ateitu a town within the Effutu Municipality is one of the fastest growing areas in the Central Region of Ghana, with a population of about 30,000. The indications are that about 40% of this population is made up of elderly people aged 60years and above. It is important that investigation into the factors that pose a challenge to the nutrition and health of the elderly and prevent them from achieving maximum health conditions is

undertaken to expand the available knowledge about elderly people so that they can be better managed or assisted by counsellors and health providers.

Selivanova and Cramm (2014) posit that since 1964 researchers at the Human Population Laboratory of the California Department of Health have studied the relationship between the health of elderly people and the various behaviours or habits. They pointed out that health and longevity of elderly people is associated with the following: Adequate sleep (7-hours long per day), a good breakfast, regular meals, weight control, not smoking "big cigarettes", moderate alcohol consumption and regular exercise. Are the elderly in Ateitu and Winneba Zongo in the Effutu Municipality aware of these pre-requisites? If they are aware of these pre-requisites are the conditions for observing them available? If they are aware of them do they take advantage of them? Are there statutory and voluntary organizations that help the elderly to observe these nutrition and health habits?

1.2 Statement of the Problem

Even though several attempts have been made to assess social, health and nutritional status of the elderly population in some African countries, including Ghana, health and nutritional status of the older population in poverty characterised communities in urban many areas in Ghana, arguably has been under-researched. To date, not much research has been conducted in older population, particularly with respect to their nutritional status in certain peripheral communities to the cities as well as the Zongo communities found in many cities in Ghana. Considering the fact that the increasing number of older people in this twenty first century (Streatfield & Karar, 2008), the importance of knowing more about older persons, identifying their physiological changes and understanding their nutritional needs is glaring.

Additionally, although Winneba is a cosmopolitan town, the support systems are not well-developed and the family is the main source of support and social security for older persons (Kabir, 2001). Therefore, the rapid demographical transformation of the population in Winneba and other towns will likely bring challenges for the family as well as for the larger Ghanaian society. Ferdous (2009) is of the view that the high prevalence of malnutrition among children, adults and women in reproductive age is one of the major challenges in the public health sector in developing countries like Ghana. It is however, not known if the prevalence of malnutrition is similar among the elderly in Winneba. Given these complex contributing factors, a careful nutritional assessment is necessary.

1.3 Purpose of the Study

The purpose of the study was to examine and compare the nutritional practices of the elderly in Ateitu and the Winneba Zongo in the Effutu Municipality and the reasons for the observed dietary practices.

1.4 Research Objectives

The research objectives were to:

1. explore the nutritional practices of the elderly in Ateitu and Winneba Zongo in the Effutu Municipality.
2. assess the level of awareness of the elderly in Ateitu and Winneba Zongo of the nutritional value of the foods they eat in relation to their health.
3. examine the provisions the elderly in these two communities make in their homes towards good nutrition in relation to their health.

4. find out the knowledge the elderly citizens have about nutritional practices in Ateitu and Winneba Zongo

1.5 Research Questions and Hypotheses

To investigate the phenomenon in question, three research questions and four hypotheses were formulated.

1.6 Research Questions:

The study was guided by the following questions and hypotheses

1. What are the nutritional practices of the elderly in Ateitu and the Winneba Zongo communites?
2. What is the level of awareness of the elderly in Ateitu and Winneba Zongo about their nutritional practices and health?
3. In what ways do the elderly assess their health in relation to the provision of nutrition they provide at home?
4. What knowledge do elderly citizens have about nutritional practices in Ateitu and Winneba Zongo?

NB Research question 4 is formulated below as hypothesis

1.6.2 Hypotheses

1. There is no significant difference between elderly male citizens of Ateitu and the Winneba Zongo communities with regard to knowledge about healthy nutritional practices.
2. There is no significant difference between elderly female citizens of Ateitu and those of the Winneba Zongo communities with regard to knowledge about healthy nutritional practices.

1.7 Significance of the Study

The findings of the study would provide empirical information on the nutritional practices and health of the elderly in the said setting. It would also inform and educate the elderly on a variety of nutritional habits and their health benefits, influence government policies on the health of the elderly in general and provide the health service with relevant practical data that will assist them in their work. It would also to already existing literature on the issue and as well provide basis for further research.

1.8 Delimitation

The study was limited to two communities in the Effutu Municipality, Ateitu and the Winneba Zongo and the study explored the dietary practices of the elderly in these two communities as well as reasons for such dietary practices. These were looked at in relation to their health conditions, that is, the relationship between nutrition and the health conditions of the elderly in the two communities.

1.10 operational Definition of Terms

For the purpose of this research, these terms were operationally defined as follows:

Nutrition: The science of food, the nutrients and the substance there, their action, interaction and balance in relation to health and disease and the process by which the organism ingests, digests, absorbs, transports, utilizes and excretes food substances

The Elderly: All males and female citizens who have passed the compulsory retirement age of 60 years

1.11 Assumptions

As it can be seen from the topic, the study was conducted to compare or examine nutritional provisions and the health of the elderly in two contrasting set ups, Ateitu and Winneba Zongo communities all in the Effutu Municipality. Ateitu was assumed to be an emerging community on the fringes of the University of Education with most of the elderly being retired highly educated citizens whose nutritional practices and health would be influenced greatly by that educational and environmental background. The Winneba Zongo on the other hand was assumed to be a relatively traditional community of relatively less formally educated elderly citizens whose nutritional practices and health would be influenced essentially by that background.

1.12. Organization of the Study

The study is organized in six chapters. The first chapter is presented as an introduction to the study. It includes background to the study, statement of the problem, research objectives, research questions, hypotheses, delimitation, and operational definition of terms and organization of the study. Chapter Two reviews the literature that is related to the study. Chapter Three describes the methodology used in the study. It provides detailed description of the activities undertaken by the researcher in implementing the study. Chapter Four presents the analyses and findings whereas Chapter Five looks at the discussion of the findings. Chapter Six provides the summary, conclusion and recommendations based on the findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This review is done in two main perspectives; the theoretical and empirical perspectives. The theoretical perspectives deal with health psychology and in general, under this will be discussed such issues as variables that affect health and illness, the psychology of being sick and adaptive behaviour of people in times of sickness and ill health. The theoretical perspectives thus discuss what psychologists, physicians and sociologists say about illness and health and how people react to them in general while the empirical perspectives discuss studies done specifically on the health of the elderly. The themes developed therefore for the review under these include:

Theoretical Perspectives:

1. Concept of nutrition
2. Relationship between health and behaviour
3. Who are elderly persons
4. The elderly in the extended family system in Ghana
5. The value of foods and methods of preparation and cooking for the elderly

Empirical Perspectives:

1. Caring for the elderly
2. Causes of health problems of the elderly
3. Nutritional requirements of the elderly
4. Age related changes and nutrition
5. Identifying elderly people who might be at risk

2.2 Theoretical Perspectives

2.2.1 Concept of Nutrition

A Latin word "Nutri" which means to nurture or nourish forms the root of Nutrition. Nutrition is defined by numerous authors from different backgrounds and perspectives. According to Adigbo and Maddah (2011), nutrition is the study of nutrients and their relationship with food and living things, Wardlaw and Smith (2011) see nutrition as the science that links food to health and diseases; it includes the processes by which the human organism ingests, digests, absorbs, transports and excretes food substances.

Guthrie and Picciano (1994), are of the view that whatever is used to explain the science of nutrition, there is a clear agreement that it is concerned with the many ways food is produced with the changes that occur within the food before it is eaten and with the way the body uses energy, builds body tissues or excretes. There is a positive relationship between good diet and good health (King & Burgess, 1993; Sharkey, 1997, Anspaugh, et al. 2003).

The Council on Food and Nutrition of the American Medical Association defines nutrition as the science of food, the nutrients and the substances therein, their action, interaction and balance in relation to health and diseases and the process by which the organism ingests, digests, absorbs, transports, utilizes and excretes food substances.

As a student of Home Economics, after examining the several definitions by different authors, I also take the position that nutrition is the study of nutrients in relation to health and diseases. It also focuses on how diseases, health conditions and problems can be prevented or lessened with a healthy diet. On the need for the study of nutrition, the American Medical Association is of the view that nutrition is one key

to developing and maintaining health that is optimal. A poor diet coupled with a sedentary lifestyle are known to be risk factors for life threatening chronic diseases, cardiovascular (heart) diseases, stroke, hypertension, diabetes and some form of cancer. Together these disorders account for two-thirds of all deaths in the U.S and the rest of North-America (Ogden, Carroll, Kit, & Flegal, 2012). Not consuming enough essential nutrients in younger years also makes us more likely to suffer health consequences in later years such as bone fractures from osteoporosis; iron deficiency anaemia is another possibility. At the same time, taking too much of a nutrient supplement such as Vitamin A, Vitamin D, Vitamin B.6, Calcium or Copper can be detrimental. Another dietary problem, drinking too much alcohol is associated with cirrhosis of the liver, some forms of cancer, accidents and suicide (W.H.O, 2007).

2.2.2 Relationship between Health and Behaviour

It is alleged that at least half of all deaths in the United States are the result of unhealthy life styles. According to the Ghana Health Service (2011), in Ghana, the proportion is even higher, about 75%. In the past in both U.S and Ghana, most people died from causes beyond their control; influenza, tuberculosis and pneumonia for example. Today, the leading causes of death such as heart diseases, cancer, stroke and accidents can be largely controlled by environmental and behavioural variables. Psychologists believe that there is a direct relationship between people's health and their behaviour. Health psychology is the study of ideas from many fields that enhance health, prevent illness, diagnose and treat diseases and rehabilitate people.

Traditionally, physicians have looked at health as the absence of disease. If a person was not infected with a virus, bacteria, cold and so on then he or she was considered healthy. Now however, doctors, and psychologists and social scientists

acknowledge that health refers not only to the absence of disease but to the total welfare of a person in terms of social, physical and mental well-being. Health and welfare are now seen as conditions people can actively pursue by eating well, exercising regularly and managing stress effectively (Euro Health Net/Bundeszentrale f.r gesundheitliche Aufklärung (BZgA) (2012). Unlike medicine which focuses on specific diseases, health psychology looks at the psycho-social mechanisms that influence the development of disease (Taylor, 1990).

2.3.1 Variables that Affect Health and Illness

According to Rodin and Salovey (1989), health and illness are not single entities affected by single variables. A person's health is affected by complex interrelationships among many events. Accordingly, health researchers have explained four variables that correlate strongly with health and illness. Rodin and Salovey (1989) identify these variables as personality, cognition, social environment and socio-cultural variables.

a. **Personality**: The view is held that certain personality types predispose people to illness. Some evidence suggests that angry, hostile people are more prone to illness while the optimistic individuals are less prone. But which comes first; the personality type or lack of illness? This is like the issue of the hen and the egg. Perhaps lack of illness and health causes optimism or at least positive life-styles or positive life styles promote good health. The role personality variables play in illness and health is still unclear. However, one personality variable that researchers are convinced about is the extent to which people feel that they control their lives, health and illness. When people have a sense that they can control their own health, they are more likely to engage in health-

conscious behaviour such as eating lots of complex carbohydrate, decreasing the consumption of saturated fats or exercising more (Taylor, 1990)

b. **Cognition**: People's thoughts and beliefs about themselves, other people and situations affect health-related behaviours. For example people with an internal locus of control are more likely to take charge of their illness and attempt to get better than people with an external locus of control, who believes that there is nothing that they can do to affect their health. People who feel they have control over their health are more likely to lead healthy life-styles.

c. **Social Environment**: Family, close friends and work can be sources of social support which is a key element in maintaining health and recovering from illness. Greater self-esteem, positive feelings about the future and a sense of control are characteristics of people with strong social support. Adults in stable long-term relationships such as marriage are less likely to have illness than are people devoid of strong social support. In addition, children of parents who are married are also likely to be healthier (McCarter, 2010). Individuals with support, they assert, are more likely to engage in preventive dental health, proper eating habit and the use of safety practices such as the use of seat belts.

d. **Socio-Cultural variables:** Gender, age, ethnic group and socio-economic class are also important variables that affect health, according to Taylor (1990). In Taylor's view, women tend to visit physicians more than men although in some western cultures, the quality of treatment given to women is not equal to that given to men. With advancing age, some people are likely to become ill, but there is great individual variation. For example often illness among the elderly is affected by other variables such as loneliness,

widowhood and isolation from family. Ethnic minorities and people from lower socio-economic groups may lack knowledge, funds or access to preventive care. In addition, older less educated and less affluent individuals are less likely to engage in exercise which helps to prevent illness. Disease prevention is the focus of many health psychologists. Recently, preventing the spread of AIDs has been of great concern to governments all over the World.

Health Psychologists are of the view that adaptive behaviour will improve people's day to day lives. For that reason, they encourage preventive programmes as one of the ways, and at home they educate people about ways to manage stress and other positive approaches toward health that will enhance and prolong life. They are of the view that to manage existing health disorders and to help prevent diseases, behavioural interventions are necessary and important. With appropriate interventions, many people are clearly subject to change. These changes and modifications should relate to life-style problems such as obesity, smoking and hypertension, alcohol and other drug abuse. It is believed that one sure way to destroy a person's normal health and behaviour is through drug use that impairs memory, alertness and achievement. What health psychologists do is to approach schools, homes and individuals with the view to making the society drug-free.

Another problem health psychology deals with is pain management. Severe and disabling pain is symptomatic of some specific illness and can take many forms, such as:

i. Chronic pain which is long lasting and ever present

ii. Periodic pain which comes and goes

iii. Progressive pain which is always present and increases in severity as an illness progresses.

Pain management is important because many people have chronic pain such as headache, lower back pain and arthritis. Some pain can be treated with drugs, surgery or other medical interventions, but other types of chronic pain such as pain caused by arthritis and cancer sometimes call for non-traditional psychological techniques. This is one area where health psychologists come into play.

The third area where health psychology plays important role to alleviate problems relating to ill-health is stress. Because stress exists in all our lives whether it is from school exams, parent or peer pressures natural disorders, illness, deaths, divorce, inflation or financial difficulties, many health psychologists focus on stress and its management. The programmes in stress management usually involve exercise, education, nutrition classes and counseling. According to Ilgen (1990), the task of managing stress in people's lives is becoming greater each day as new and potent forces infringe on people's health. In the 1990's, people were concerned not only about managing day-to-day illness and stress but also about potential threats in the environment and in the food supply.

This section of the literature review indicates that people in all walks of life face one problem or the other that needs solution. Consequently, there has arisen a branch of psychology, health psychology that helps people in one problem or the other to resolve them. Adaptive behaviour tries to resolve life threatening problems including behavioural intervention, pain management and system management. The elderly are associated with many kinds and forms of stress problems. The next section of the review, the empirical review takes a critical look at the elderly with special emphasis on their nutritional practices and health.

2.4 Who are Elderly Persons?

Most developed countries have accepted the chronological age of 65 years as a definition of 'elderly' or older persons, but like many westernized countries, this concept does not fit well to the situation in Africa. While this definition is somewhat arbitrary, it is in many ways associated with the age at which one can begin to receive pension benefits. At the moment, there is no United Nations standard numerical criterion, but the UN's agreed cut off that refers to the older population is 60+ years (Personal correspondence, 2001).

Although there are commonly used definitions of old age, there is no general agreement on the age at which a person becomes old. The common use of a calendar age to mark the threshold of old age assumes equivalence with biological age, yet at the same time, it is generally accepted that these two are not necessarily synonymous. As far back as 1875, in Britain, the Friendly Societies Act, enacted the definition of old age as, "any age after 50", yet pension schemes mostly used age 60 or 65 years for eligibility (Roebuck, 1979).

Realistically, if a definition in Africa is to be developed, it should be either 50 or 55 years of age, but even this is somewhat arbitrary and introduces additional problems of data comparability across nations. The more traditional African definition of an elder or 'elderly' person correlates with the chronological ages of 50 to 65 years, depending on the setting, the region and the country. Adding to the difficulty of establishing a definition is the fact that actual birthdates are quite often unknown because many individuals in Africa do not have any official record of their birthdates. In addition, chronological or "official" definitions of ageing can differ widely from traditional or community definitions of when a person is older. We will follow the

lead of the developed world, for better or worse, and use the pensionable age limit often used by governments to set a standard for the definition.

Lacking an accepted and acceptable definition, in many instances the age at which a person becomes eligible for statutory and occupational retirement pensions has become the default definition. The ages of 60 and 65 years are often used, despite their arbitrary nature. For purposes of this study, all individuals in Ateitu and Winneba Zongo aged 60 and above fall in the elderly bracket, and form the population of the study.

2.5 The elderly in the extended family System in Ghana

There is no definite policy in Ghana, but all Ghanaians believe that the elderly shall be accorded special attention in the extended family system. Otabil (2008) for example, points out that one major advantage of the extended family system is that in times of difficulties or need there are family members at hand ready to help. The aged, orphan, sick, poor, widow, the handicapped and the childless in the family are all catered for by family members who have the means. The needs of these people such as food, clothing, shelter, and health are taken care of by other family members. In this regard one finds a high degree of security in the extended family. Otabil (2008) however, is quick to add that these benefits of the extended family system are being gradually eroded by poverty, urbanization and education. The health care and nutritional practices that elderly should be provided with, in some cases remain elusive.

It is to fill the vacuum that in most advanced countries, residential homes have been established for the elderly. In spite of these residential homes, the need for the elderly to be cared for in their homes became so urgent that in the U.K, the

Community Care Act was passed in 1993. According to the Caroline Walker Trust Expert Working Group Report (1995), one of the main objectives of the Community Care Act was to enable people to stay in their own homes for as long as possible. This, according to the experts has been accompanied by a decrease in the proportion of older people in residential homes. Currently, it is the very old, those aged 85 years and above that are now in residential or nursing care. There is a decrease of about 5% even in this age bracket with the passage of the Community Care Act.

In the view of these experts, the body starts to age from about the age of 20. Many people reach a ripe old age still alert and taking enjoyment from life. The rate at which people age and become frail or disabled is influenced by their genetic makeup. Many outside influences also play an important part in maintaining physical and mental alertness and enjoyment of life. Some of these outside influences are involvement in the local community or special interest groups, hobbies, and the family or social circle. The most important of these factors are the influence of diet and activity. Food and eating habits bring shape to an adult's day and facilitate social interaction as well as providing essential energy and nutrients. (King & Burgess, 1993; Caroline Walker Trust, 2008).

The assertion by the group of experts goes to confirm the usefulness of the extended family system as described by Otabil (2008). It is therefore important that efforts are redoubled to strengthen the values of the traditional extended family system even in the face of education and urbanization challenges. The importance of the extended family in caring for the elderly is confirmed by Owusu (2005). According to Owusu (2005), Africans particularly Ghanaians, have in the past been very proud of the care of elderly parents and relatives at home and have been quite

pleased to inform foreigners that there are no old peoples' homes in their countries. This is because the elderly were cared for by their children and other relatives.

However, increased urbanization and migration of children to other continents are now changing this admirable culture. Today, more and more elderly people are being cared for in towns and cities by their working children and relatives rather than by relatives in the villages where they were treated with so much respect, and were also consulted before any major decisions were taken in the extended family. Before such a decision they would say "yerekobisa aberewa" literally we are going to consult the elderly. Urbanization, migration and education have considerably reduced the extent or strength of this caring attitude for the elderly. However, all is not lost yet as pointed by Owusu (2005). Modernization has not succeeded in completely eroding this admirable culture, even though it has somehow caused some deep indentation.

2.6 The Value of Foods and Methods of Preparation and Cooking for the Elderly

Nutritionists are of the view that food may be categorized into five different groups. In order to meet nutritional requirements, it is advised that a minimum intake of each food group is necessary. The first group consists of fruits and vegetables. Fruits provide a good resource of anti-oxidant vitamins A and C, minerals and fibre. Fresh fruits should be incorporated into the diet regularly, using a wide variety of seasonally available fruit. Fruit can also be used as an alternative to cakes and biscuits; stewed fruit can be used as a pudding. Canned fruit is a useful alternative while dried fruits can be used in baking or added to cereals and puddings to add sweetness. Pure fruit juice can be used as a fruit portion substitute on a daily basis to boost vitamin C. Excessive consumption may however cause abdominal pain or

diarrhoea. Pulse vegetables such as peas, beans and luncheon must be encouraged since they are good sources of non-starch polysaccharides and fibre. They can be introduced into the diet to enrich some of the meat dishes or used in soup. Apart from pulse vegetables, nutritionists are of the view that other vegetables can also serve as a good source of anti-oxidant vitamins A and C, minerals and NSP fibre. But they caution that such vegetables should preferably be fresh or frozen rather than canned although canned tomatoes can be very useful for savoury dishes. Canned vegetables are also a useful standby for older people at home. King and Burgess (1996) advise that vegetables should be provided at every meal and a wide variety offered throughout the week. Some vegetables can be good resources of vitamin C but King and Burgess (1996) lament that unfortunately vitamin C is lost by prolonged boiling. Steaming is a better method of cooking as it destroys less of the vitamin C. They therefore, caution that care must be taken to minimize preparation and cooking time and the minimum amount of water should be used for cooking. Fresh vegetables should be prepared just before they are required for cooking or serving, as far as possible. Again, they caution that the peelings of edible skins should be avoided provided the vegetables are of good quality as this will increase the vitamin and NSP (fibre) content of the diet.

On the use of nuts by the elderly, the Dundee City Council Directorate of Public Health (2005) agrees that nuts are a good source of protein but they may not be suitable for consumption by some older people. Some older people may have an allergy to peanuts because they may become lodged in their denture and may cause problems for those with swallowing difficulties. Their use should be encouraged in the vegetarian diet with groundnut, peanut butter and other nut pastes being suitable alternative to meat and fish.

The second food group consists of bread, other cereal products and potatoes. They include bread, breakfast cereal, pastries, rice, potatoes, yam and sweet potato. Bread and flours, according to the Dundee City Council Directorate of Public Health (2005) are a good resource of vitamins and NSP (fibre) and provide energy. Whole meal bread should be encouraged but white bread should also be available. A mixture of white bread and whole meal flour should be used in baking. The Directorate cautions against the use of unprocessed brans it can cause stomach pain and constipation if fluid intake is not adequate. Unprocessed bran can also reduce the body's ability to absorb some important nutrients if given in excess quantities. A variety of pastries may be used: white, whole meal, verdi and tomato; these will add variety to the diet. The Directorate opines that breakfast cereals are mostly fortified and are good sources of vitamins and minerals. Porridge, oats and muesli and fortified breakfast cereals are also a good source of NSP (fibre) and should be encouraged.

On rice, the Dundee City Council Directorate of Public Health (2005) suggests that it is a good source of energy, Vitamin B and NSP (fibre) and that it is best to use a variety of rice, both white and brown, for savoury dishes. Rice pudding can be made with sugar or sweetened with dry fruits such as sultana which will also increase the NSP (fibre) content of the dish.

2.6.1 Milk and Dairy Products

This is the third group in the categorization of food groups. This group comprises milk and dairy products such as cheese, yoghurt, custard, milk puddings and hot milky drinks. Milk and milk products are excellent resources of calcium and protein (King & Burgess 1996; Dundee City Council Directorate of Public Health, 2005). They all advise that whole milk should be used and that semi-skimmed milk

and low fat cheese will also help to reduce fat intake for those who are overweight or on a specific therapeutic diet. For the vegetarians, they advise that calcium enriched soya milk should be used and that all milk products must be pasteurized.

2.6.2 Meat, Meat Products, Poultry and Fish

Meat is an excellent source of protein and iron (King & Burgess 1996; Dundee City Council Directorate of Public Health, 2005 WHO, 2007). The sources encourage the use of wide range of meat to satisfy a variety of tastes. They also advise that cultural and religious objections to certain meat should be acknowledged. For example, among the Muslim who form a large percentage of the population of Ghana, pork meat and all pork, sausages and blood are forbidden. In addition all the animals must be killed by a Moslem with a religious prayer, Halal. In general, all-shop bought products containing animal fat are avoided, fearing it may be pork fat or fat from non-halal animals. Another important concern for the Muslim in relation to meat and meat products and eating in general is the period of fasting. During the month of Ramadan, a true Muslim may only eat during the one and half hours before sunrise, though there are some exemptions for women or the sick. Other religious groups such as the Bahais, the Buddhists, the Jews, the Hindus, the Sikhs, and others have their dietary requirements and any researcher working in this area is expected to ask for clarification and better particulars. The questionnaire in this study sought for such clarification.

Meat products such as sausage and burgers, according to the nutrition experts should be cooked without the addition of fat. Meat pies and pastries may cause problems for those elderly people with ill-fitting dentures or dry mouths. They also have a high fat content. It is therefore advised that they should be offered only occasionally. Frozen poultry must be defrosted thoroughly in the fridge and be well-

cooked to avoid the risk of food poisoning. On fish, the view of the experts is that only fish such as kippers, herring, sardines, pilchard and mackerel are rich sources of vitamin D and omega 3 fatty acids, and that the use of all fish in the diet of the elderly should be encouraged (Dundee City Council Directorate of Public Health, 2002). A variety of cooking methods must also be used. In hospitals and residential settings, it is suggested that pasteurized eggs must be used for such dishes as scrambled eggs. It is also advised that eggs must be purchased from reputable dealers who have a quick stock turnover as eggs kept over a long period can be dangerous, health wise. Shell eggs must never be washed as this will raise the risk of salmonella infection and that shell eggs, given to frail elderly people should be hard boiled or thoroughly cooked (Forbes, 1988)

2.6.3 Fats and Oils

This is the fifth group in the categorization of food groups. Although frying food adds variety to the dish, it should be kept to a minimum (Forbes, 1988, King & Burgess (1996). Where possible it is advised that food should be grilled, poached, steamed, boiled or baked. However, when the need arises for frying, the oil used should be the type labelled “High in Polyunsaturated”. Examples of such oils are sunflower oil, soya oil, rapeseed oil and others. Vegetable oil of unknown origin should be avoided, since it may not be as rich in poly unsaturated. The use of spreads rather than butter should be encouraged since the Vitamin D content is high. Polyunsaturated fats can also be used in baking and that low fat spreads are only necessary in the case of therapeutic diets.

2.6.4 Drinks

Drinks do not form part of the five food groups but they are still important as their consumption can have positive or negative effects on the health of those who consume them, especially the elderly. Water is said to be life. It is therefore advised that it should be available at all times, and a variety of other drinks should be available as well. However, the amount of sugar and sugar containing drinks needs to be restricted in the case of therapeutic diets. Any alcohol consumed is not counted as part of total fluid intake by health experts. They advise that alcohol, tea and coffee have directive properties and that information on safe alcohol limits must be obtained from health specialists.

2.6.5 Alternative Diets

Alternative diet consists mainly of diet for the vegetarian and the vegan as well as therapeutic diets. According to the Dundee City Council Directorate of Public Health (2002), any investigation of the diet of the elderly cannot ignore causes of alternative diet because a sizeable proportion of the elderly may be on alternative diets. Increasingly many people are becoming vegetarians and vegans because they do not believe in the slaughter of animals for food while some are vegetarians due to their religious or cultural beliefs (Forbes 1988).

2.6.6 Types of Vegetarianism

It is important to establish what people mean when they say they are vegetarians as there are many vegetarians with different nutritional implications. The main types of vegetarianism are as follows;

a. **Demi-Vegetarians**: Don't eat red meat but still eat fish, egg and dairy products

b. **Lacto-ovo Vegetarians**: Don't eat meat, fish or poultry but do eat eggs and dairy products

c. **Lacto-Vegetarians:** Exclude all meats, fish, poultry eggs but still take milk and milk products

d. **Vegan**: Consume no foods of animal origin

Forbes (1988) points out that in general vegetarian and vegan diets may be rather bulky and lower in energy than a mixed diet due to the high water content of vegetables. This in itself may cause problems for older people especially those with loss of appetite. However, in general, the nutritional value of a well-placed vegetarian diet is similar to that of a mixed diet. Problems may arise with a vegan diet which can be made more bulky and therefore more energy deficient. A wide variety of plant protein from cereal, pulses and nuts provide sufficient protein of good quality for vegetarians. However, attention must be paid to ensure adequacy of energy, calcium, iron and riboflavin (B2), B12 and Vitamin D. As B.12 is only present in animal foods, vegetarians are advised to take it in fortified foods such as breakfast cereals, textured vegetables, protein (TYP) or soya drinks; yeast extract such as Marmites are also a good source of B12.

2.6.7 Therapeutic Diets

A therapeutic diet is part of the treatment for a specific medical condition such as obesity, diabetes mellitus and coeliac disease (Dundee City Council Directorate of Public Health, 2002). This may involve change in food consistency. The diet is prescribed by a doctor as part of a treatment regime. In such cases, a copy of the diet sheet provided by the doctor must be retained for reference.

2.6.8 Gluten Free for Coeliac Disease

Coeliac disease, according to the Dundee City Council Directorate of Public Health (2002) is a condition where the bowel reacts to gluten, a protein found in wheat, rye, barley and oats. When a person with coeliac disease eats food such as wheat containing gluten, the bowel lining becomes damaged and prevent food from being properly absorbed. This can lead to nutrient deficiency. Symptoms of coeliac disease vary but may include weight loss, diarrhoea, vomiting, abdominal swelling and anaemia. These symptoms can also represent other medical conditions so if the client experiences any of the above symptoms, it is important to contact the doctor so that an appropriate diagnosis can be made. The only treatment for coeliac disease is a lifelong gluten free diet. This must only the commenced after a doctor has diagnosed coeliac disease and must be followed under the supervision of a qualified supervisor.

2.6.9 Cholesterol Lowering for Hyperlipidemia

Another therapeutic diet involves attempt to reduce cholesterol in the system. As explained by King and Burgess (1996), cholesterol is a natural fatty substance found in our blood. At normal levels, it is harmless but some people have too much of it. A raised cholesterol level is one of several risk factors associated with coronary heart diseases. Other lifestyle risk factors include smoking, obesity and lack of exercise. In older people, however, the link between risk factors and coronary heart diseases is unclear. For this reason, any intervention with regard to lifestyle factors must be considered on individual basis. Dietary and lifestyle intervention are applicable to fit older people and not to make more frail individuals with limited food intake.

Once hyper cholesterol is diagnosed, treatment involves intervention to address other risk factors as well as dietary measures. The objectives of the dietary

intervention according to the Dundee City Council Directorate of Public Health (2002) are to achieve weight control, reduce total fat intake particularly saturated fat and increase intake of fruit and vegetables.

The main dietary points suggested by the Dundee City Council Directorate of Public Health (2002) in lowering cholesterol in the system include:

1 Consumption of more fruits and vegetables, at least five portions daily;
2 Reduced intake of fatty foods such as cakes, biscuits, pastries, fried foods and high fat meat products;
3 Use a polyunsaturated or low fat spreads sparingly;
4 Abundant use of olive oil or sunflower oil rather than butter or lard;
5 Use of semi-skimmed milk and modified intake of other full fat dairy products;
6 Increased use of oily fish or sardines, mackerel and salmon.

2.6.10 Low Sugar for Diabetes

Diabetes is another medical condition that can substantially be dealt with by adoption of therapeutic diets. Diabetes is a condition in which the body is unable to control the amount of sugar in the blood. The blood sugar level increases a lot and if not treated can be harmful. Symptoms of diabetes may include excessive thirst, paring large amounts of urine and tiredness. Some people may also lose weight. A doctor can diagnose diabetes from a blood test which measures sugar level. A large proportion of people with diabetes are diagnosed over the age of 60 (Dundee City Council Directorate of Public Health, 2002).

According to the source, eating a healthy diet will help to control blood glucose levels. The diet for people with diabetes is not a special diet; it is simply a

healthy way of eating. The main points to remember about such healthy diets include the following:

1 Foods with a high sugar content such as cakes and chocolate should be restricted and the amount of sugar added to food and drinks should be reduced. Use an artificial sweetener and reduce sugar or sugar free product

2 Encourage regular eating. Provide three meal a day plus appropriate snacks if necessary

3 At every meal, include some starch, food such as bread, potatoes, cereals, rice and pasta

4 Try to ensure at least five portions of fruit and vegetables each day

5 Cut down fatty foods

2.6.11 Reduced Energy (Calorie) for Obesity (overweight)

In their report entitled Nutrition Standard and the Old Adult (1993), the Royal College of Nursing (RCN, 1999) opines that people will become overweight if they take in more energy through food and drink than they use up through activity. This can be a problem in older people if they become less active, for example through illness, but maintain their normal eating habits. The best way to avoid excess weight gain, according to the source is to eat a healthy varied diet. These are as follows:

1 Include more fruit and vegetables (at least five portions a day)

2 Use skimmed or semi-skimmed milk

3 Use lean meat and trim off all fat before cooking

4 Avoid fatty meat product such as pies, and luncheon meat

5 Reduce the intake of cakes, chocolate, and biscuits

6 Try boiling, steaming, grilling or microwaving food instead of frying.

In order to understand the dietary needs of the elderly, it is important to know what the basic requirements for the healthy older adults are together with those whose diet is for therapeutic reasons. This section of the review has thrown light on the value of the five groups of food, the methods of preparation and cooking as well as the alternative foods required for vegetarians and for therapeutic purposes.

2.7 Caring for the Elderly

In his book Fitness and Health, Sharkey (2007) presents the results of an extensive study carried out by the Human Population Laboratory of the California Department of Health on the relationship between health and various health habits. The researchers pointed out that health and longevity are associated with seven health habits, namely adequate sleep of 7-8 hours per day, a good breakfast, regular meals, weight control not smoking cigarettes, moderate alcohol consumption and regular exercise.

On sleep, the study points out that when men or women sleep 6 hours or less per night they are not as healthy as when they sleep 7-8 hours. On the other hand those who sleep 9 hours or more are slightly below average in health. Thus 7-8 hours' sleep is most ideal implying that little sleep is far more problematic than too much sleep. On regular activity the Californian researchers compared the benefits of five types of activities such as active sports, swimming, long walk, garden work, physical exercises, hunting and fishing. Only hunting and fishing done seasonally or infrequently were not associated with improved health. For all others, those who participated in them most often experienced the best physical health. The best health was associated with active sports followed by swimming or walking, physical exercises and gardening. In summary physical health, longevity and the rate of ageing are associated with daily health habits and life style.

On nutritional needs of the elderly, King and Burgess (1996) assert that good food helps elderly people to stay healthy and active for longer periods and to resist infections. They explain that as people grow older they are usually less active and need less energy. All the same they still need plenty of protein, minerals especially calcium ,vitamins and fibre, and that elderly people should have their fair share of legumes, milk, eggs, vegetables and fruits and fibre to prevent constipation. In a handbook, Nutrition Handbook for Community Workers in the Tropics, the New Zealand Ministry of Health (2013) corroborates the assertion made by King and Burgess. The New Zealand Ministry of Health (2013) postulates that elderly people have special need for nourishing food explaining that since they are less active, they do not need as many calories as younger people. To cut down on calories they need to use less margarine, cooking oil, other fats, sugar, sweets and starchy foods. In Health Psychology, Taylor (2003) pleads for intervention measures for the elderly in America in view of the rapid rate at which they are ageing. She points out that intervention should focus on helping the elderly achieve the highest level of functioning possible through programmes that emphasize diet, exercise and other health habits.

Discussing the aged and their diseases Boyle and Zyla (1996) point out that among the diseases that befall some people in later years are heart diseases, cancer, diverticulosis, bone disease, brain diseases, and diabetes and gum diseases. They add that clearly an adequate intake throughout life of nutrients and fibre from a variety of foods together with moderate intake of food energy and fat helps immensely to promote good health in later years. They assert that many of the nutrient needs of the elderly are the same for younger persons, but some special considerations deserve emphasizes in the case of the elderly. Lower deficiency in the nutrients listed above

can cause protein-energy malnutrition (PEM) which is common in older people and often goes unnoticed. The importance of nutrients for the elderly is corroborated by Sharkey (1997), who points out that a large percentage of ageing is due to caloric deficiency, though other factors like gene defects or chromosome damage or limits to cell division (The Hayflick limit) cannot be discounted.

Owusu (2005) provides a catalogue of challenges the elderly pass to their younger relatives caring for them. The first is physical and mental deterioration. Physically, the movement of the elderly is slow and unsteady, sometimes requiring the help of a support like a stick. This is because the muscle has atrophied and replaced by fat, and is unsteady because he or she cannot see well. Vision is impaired because of refractive error, glaucoma or cataract or a combination of these. They complain a lot about aches and pains mostly called "rheumatism" especially during the cold weather. They may also complain of breathlessness and exertion due to anaemia, chest pains, swelling of the leg due to heart diseases such a coronary diseases. Hypertension and diabetes according to Owusu, are also common among the elderly living at home. He explains further that the diabetic elderly is often associated with frequent urination at night and bed wetting in some cases. Because of low vision, Owusu asserts, the elderly is likely to fall down easily and break a limb, particularly the legs or the hips due to osteoporosis. Depressive illness and dementia are some other common diseases associated with the elderly at home.

On how to cope or manage the elderly at home, Owusu suggests the following:

1. Relatives looking after the elderly must bear in mind that the elderly need love and company as well as care. They should not be hurried into doing anything; otherwise they may fall and break a bone which may require their hospitalization. The keyword, Pro Owusu stresses is patience.

2. The next important thing to do is for the elderly to be taken to a doctor for a through medical checkup. Physical examination may lead to detection of hypertension and enlargement of the prostate gland in the male and a Prostate Specific Antigen (PSA) test done to exclude the probability of cancer of the prostate gland.
3. The elderly usually have poor appetite but they need to eat a well-balanced diet. As much as possible, they must be given what they are used to eating. However, Owusu cautions those looking after the elderly to seek professional advice if need be to be sure of giving them a balanced diet. Again, because of inactivity, they tend to be constipated. To reduce, this, their diet should contain fibre as well as fruits. The relevance of this suggestion to the current study cannot be overemphasized.

2.8 Causes of Health Problems of the Elderly

Kings and Burgess (1996) are of the view that quite a good number of elderly people are undernourished. They are thin, anaemic and may lack nutrients such as vitamin A. Some are obese or have heart diseases or diabetes. Some are alcoholic and may be at the risk of under nutrition. King and Burgess attributed these problems to the following causes:

1. They or their families cannot afford to buy the good foods that they need.
2. They have to care for and support many grandchildren.
3. They live alone and have no relatives to help them and care for them.
4. They live in ‘homes’ which do not provide good meals
5. They have lost their teeth and find it difficult to eat food which needs to be chewed.

6. Early life style of food habit.

It can be seen from the analysis that poor nutrition is a serious challenge to the health of the elderly. The Jamaican New Zealand Ministry of Health (2013) adds that the major causes of poor nutrition among the elderly are lack of money, loneliness, bad practices such as poor handling and storage of food and unsatisfactory disposal of rubbish and human waste.

2.9 Nutritional Requirements of the elderly

According to Barasi (2003), there is still a lack of reliable data about the specific nutritional needs of the elderly. In part, this is related to the heterogeneity of the group, which makes generalized recommendation difficult. The U.K's Department of Health (2001) reiterates that it should be remembered that dietary references, values and comparable figures published refer to healthy individuals. The elderly have been characterized with chronic disease, but they require special consideration. Nutrition influences various body functions as people age. Also the role of nutrition in retarding or advancing development of chronic disabilities and disorders associated with ageing as well as ultimate good health cannot be overemphasized.

The energy requirement of the elderly is assumed to decrease with age. There is little need for protein and micro-nutrients. The elderly must reduce caloric intake by 10% between fifty one (51) years and seventy five (75) years of age, plus additional 10% after seventy five (75) years unless physical activity necessitates a larger or smaller caloric intake. Restriction of energy giving foods if started early in life is the single most important factor for extending the life span. Fibre is needed in the elderly nutritional requirement because it provides bulk in the diet and aids in bowel movement .Thus, there is a potential risk of reduced absorption of minerals as a result

of high intake of dietary fibre, and therefore it must be consumed moderately. Whereas fats serve as a carrier for fat soluble vitamins and provide the essential fatty acids, this need can be met by our daily intake of 15-25g of appropriate food fats. Presently there is no RDA for fats (Wardlaw & Smith 2011).

For the protein requirement of the elderly it is recommended that an intake of 0.6g of high quality or 0.8g of protein of mixed quality per kilogram body weight be maintained throughout elderly life. Energy and protein intake must be adequate to allow protein to be used for wound healing and tissue repair rather than energy needs (Wardlaw & Smith, 2011).

Vitamins and mineral requirement of the elderly most of the time remain the same for young adults too. However, calcium intake must be increased between 800ml-1400ml daily especially for post-menopausal women as a result of decreased absorption of calcium and to avoid possibility of calcium deficiency resulting in osteoporosis. Water requirement of the elderly is important because the number of nephrons is less in the aged. With this the solute lead per nephron is increased. Therefore adequate water must be consumed to facilitate the excretion of that solute lead. The elderly are encouraged to consume adequate quantity of fluid especially water to aid digestion and to control body temperature. (Wardlaw & Smith, 2011)

A high salt intake for the elderly pre-disposes hypertension, which is a chronic condition among the elderly. The risk of stroke as a result of hypertension is less in the elderly because of reduced caloric intake than in other age groups. Therefore, Dowler and Cavert (1995) provide these guidelines to be followed by the elderly:

1. Enjoy energy food, follow basic healthy eating guidelines relating to fats, fibre, salt and sugar
2. Spend income and time appropriately and eat warm foods

2.10 Age Related Changes and Nutrition

According to Culross (2008), as people age multiple changes occur that affect their nutritional status. In her view sarcopenia or the loss of lean muscle mass which can lead to a gain in body fat may not be apparent by measuring body weight. It may be more noticeable by loss of strength or functional decline and poor endurance.

She points out further that this loss leads to reduced total body water content. This view corroborates Tabloski's (2008) view that such losses can lead to changes in bone density which will increase the risk of osteoporosis. Tabloski emphasizes that, ageing often goes with a decrease in saliva production referred to in medical terms as xerostomia, and changes in dentition alter the ability of people to chew which also leads to changes in food choices.

Directorate of Public Health (2002) confirms all the points raised above. Directorate of Public Health (2002) suggests that as people get older physiological changes which affect the body can also affect food intake, digestion, absorption and utilization of nutrients. Socio-economic factors, acute and chronic illness and drugs can also affect the body. Nutrient interaction can also affect nutritional intake and nutritional status. Directorate of Public Health (2002) provides the following catalogue of health and nutritional problems related to ageing.

2.10.1 Mouth Problems

Changes in the mouth and to teeth can occur which may cause difficulties with chewing, mouth dryness, diminished sense of taste and ill – fitting dentures. More specifically dental and oral health problems related to ageing include the following;

i. Taste bud are lost leading to diminished taste perception
ii. Salivary glands become more fibrous leading to dry mouth and increased potential for decay

iii. The tongue enlarges which may affect mastication

iv. Tooth pulp deteriorates

v. Gum disease is common leading to inflammation and exposed root and poor bone support

2.10.2 Swallowing Difficulties

Dundee City Council Directorate of Public Health (2002), points out that, swallowing difficulties or dysphagia can sometimes is a problem for older people. The Board is of the view that this difficulty can occur for a variety of reasons, but it often happens following a stroke. People who have dysphagia can range from those who have no swallow reflex to those who can manage modified textures of food. As a solution the Directorate of Public Health (2002) suggests that it is often easier to contrast the swallowing action with foods that are of a smooth, thick consistency rather than liquid such as mashed potatoes with gravy and thick custard.

2.10.3 Weight Loss

Poor appetite, swallowing difficulties and certain illnesses can lead to weight loss among older people. Solution to this problem falls into two categories, the use of small appetites and high calorie foods where necessary. With small appetite the suggestion is that older people

(a) Be offered small amount of food often every 2-3 hours

(b) Are given a small main course with pudding offered a little later

(c) Make use of snacks between meals example cakes, cheese and crackers, biscuit, scones, pancakes and milky drinks

(d) Offered drinks after food rather than along with it

(e) Try to make all food offered look attractive

On the use of calorie foods, the Board suggests that older people be offered;

a. Full cream dairy products such as full cream milk, and thick creamy yoghurts;
b. Margarines or butter added to potatoes and vegetables;
c. Fried foods

2.10.4 Constipation

According to Tull (1996) among older people constipation is common and is often due to reduced mobility, low intake of fluid, a poor diet, inadequate NSP (fibre) and also to some medications. Constipation may be relieved by increasing NSP (fibre) and ensuring adequate fluid intake. A gradual increase in fibre- containing food is advisable to prevent bowel discomfort and distention. Unprocessed bran should not be used, as absorption of minerals can be compromised. The suggestion by the Dundee City Council Directorate of Public Health (2002), is that older people would be encouraged to be as mobile as possible, appropriate to their capabilities.

2.10.5 Irritable Bowel Syndrome

This condition is characterized by a change of bowel habit, which may be either diarrhoea, constipation or an alternation of both. Abdominal pain or distension may be present. A regular well balanced dietary intake with adequate fluid intake can help alleviate symptoms. Alteration of either increase or decrease in fibre intake, depending on individual symptoms, can also be of benefit (Wardlaw & Smith, 2010).

2.10.6 Diverticulitis

This is described as a condition where pockets develop in the bowel which can become infected, causing pain and change in bowel movement. A diet with adequate fibre and fluid can help prevent the symptoms (Tull, 1996).

2.10.7 Nutritional Deficiencies

Older people are at particular risk from certain nutrient deficiencies. These are vitamins C, folic acid, iron and vitamin D Deficiency of vitamin C generally relates to a low intake of fruit and vegetables. This may be caused by ill-fitting dentures, or difficulties with manual dexterity which may cause problems in preparation for those living at home. Overcooking vegetables also increases vitamin C loss. Inadequate intake of dietary iron and or folic acid can cause anaemia. Certain diseases can also lead to anaemia and must be excluded before a dietary cause is diagnosed. Drug therapy can also affect absorption of these nutrients (Pyke, 1990).

To help prevent anaemia, iron- rich food should be encouraged such as red meat, oil rich fish, egg, fortified breakfast cream, green leafy vegetables and pulses. Food or drink rich in vitamin C taken with a meal can enhance iron absorption. Folic acid can also be found in liver, pulses, fortified breakfast cereals bread, green leafy vegetables and citrus fruits.

Osteromalacia is caused by vitamin D deficiency, resulting in painful soft bones that are prone to fractures Vitamin D is formed mainly in the skin by the action of sunlight. Older people should be encouraged to sit outside during summer months in addition to the few dietary sources of vitamin D. These are margarine with vitamins A and D, oil-rich fish, eggs and liver. Vitamins D supplements should be considered for those who are housebound and in long term care. (Sahay & Sahay, 2012).

2.10.8 Muscle and Bone Disorders

Tayside Board….. maintains that mobility and manual dexterity of older people can be affected by disorders such as osteoarthritis, osteoporosis and osteomalacia. Physical activity should be encouraged according to each individual's

ability and this can improve bone muscle strength and increase calorie intake which can help increase appetite. With regard to osteoporosis, there is uncertainty whether additional calcium intake is preventative. However the board is of the view that an adequate calcium intake is important and those foods light in calcium such as milk and milk products should be taken.

2.10.9 Effect of Medication

Research by White and Ashworth (2000) indicates that older people often take more than one prescribed drug and that many drugs do affect their appetite, absorption and metabolism of nutrient. They suggest that any concerns in that regard should be discussed with a pharmacist or medical practitioner. Writing on changes in nutritional needs of the elderly Culross (2008) maintains that the overall nutritional requirements of the older adults do not change. What does change is the caloric intake. She explains that because of the loss of lean muscle mass the overall caloric intake requirement decreases while the need for other nutrient remains relatively unchanged. This makes eating nutrient-dense foods even more important for older adults.

The nutrient requirement for older adults include increased intake of vitamins D, B12, and B6 and calcium. Of these Culross (2008) recommends B12 exclusively to those over the age of 50 as a supplement because of the decreased absorption rate. Vitamin B12 deficiency can be responsible for depression, neurological disorder and macrocytic anaemia. Culross (2008) dismisses the view that protein intake should be increased with ageing. She says unless the older adults require additional protein for healing and strength, this should not be the case. Culross (2008) refers to the Modified My Pyramid for older Adult developed by Tufts University and published in the January 2008 issue of the Journal of Nutrition, pointing out that the pyramid emphasizes eating nutrient dense foods, the importance of fluid intake and activities

that may be typical of the older age group. The modified pyramid also suggests that supplements for nutrients such as calcium and vitamin D and B12 may help people meet their nutritional needs when food alone does not yield adequate amount.

Writing on how a good diet can contribute to the health of older people, the Caroline Walker Trust Expert Working Group points out that the ageing process affects people at different rates. However, a good diet and physical activity help to minimize potential health problems and accelerate recovery from episodes of illness.

As activity lessens, calorie requirement fall. However, if insufficient food is eaten, the level of nutrient in the diet can become dangerously low, leading to a vicious circle of muscle loss, even less activity and even lower appetite. The group of experts points out that poor nutrition can contribute to a number of health problems including constipation and other digestive disorders, anaemia, diabetes mellitus, muscle and bone disorders including osteoporosis, osteromalacia and osteoarthritis, overweight, coronary heart diseases and stroke. Poor diet may also contribute to other health problems such as declining mental health, changes to the nervous system and the immune system, cataract and some cancers. To forestall these health problems, the group of experts provides the following guideline for food prepared for older people in residential or nursing homes.

Table 2.1 Guidelines for Food Preparation for the Elderly

Energy/calories	EAR	Women aged 75 and above 1.810kcal Men aged 75 and above 2,100kcal
Fat		35% of food energy Women aged 75 and over 70g Men aged 75 and over 82g
Starch and intrinsic and milk sugars		39% of food energy Women aged 75 and over 1.88g Men aged 75 and over 218g
NME sugars		11% of food energy Women aged 75 and over 53g Men aged 75 and over 62g
Fibre	DRV	18g
Protein	RNI	Women 46.5g Men 53.3g
B vitamins	Thiamin RNI	Women 0.8mg Men 0.9mg
	Riboflavin RNI	Women 1.1mg Men 1.3mg
	Niacin RNI	Women 12mg Men 16mg
Foliate	RNI	200 micrograms
Vitamin C	RNI	40mg
Vitamin A	RNI	Women 600 micrograms Men 700 micrograms
Calcium	RNI	750 mg
Iron	RNI	8.7mg
Zinc	RNI	Women 7mg Men 9.5mg
Potassium	RNI	350mg
Sodium		Not more than 2400mg

Source: Adapted after the Directorate of Public Health, Dundee (2002).

Explanation

E.A.R. : Estimated Average Requirement

D.R.V. : Dietary Reference Value

R.N.I. : Reference nutrient Inta

In addition to this nutritional guideline the group of experts recommends that older people should be encouraged to undertake regular physical activity such as walking,

as this strengthens and builds up muscle and bone and increases calorie requirement which increases appetite.

This physical activity is so important to the group of experts that they recommend that even chair-bound people should be encouraged to do regular leg and arm movement. All these assertions and recommendations of the Group of Experts go to corroborate and confirm the earlier findings made by Culross (2008) and the Directorate of Public Health (2002). According to the Group of Experts, the question 'What are desirable intakes of energy and nutrient for older people?' has been a subject of debate for some time. These guidelines were developed in response to this question. After the extensive study of the elderly, the following recommendations were made by the group of experts for maintaining good nutritional status in elderly people:

1. Elderly people should derive their dietary intake from a diet containing a variety of nutrient-dense foods.
2. An active lifestyle

2.11 Identifying Elderly People Who Might Be At Risk of Malnutrition

The most important way to identify older people who might be at risk of malnutrition, whether they are in the community or live in residential care accommodation is by regular weighing and by observing and reporting changes in weight. This is described as the MUST TOOL (Coben & Roberts, 2005). According to these experts, the MUST TOOL can detect both over nutrition (overweight and obesity) and under nutrition. The tool primarily uses measurement of weight and height and weight change. To measure the weight of the elderly, the group of experts suggests that all nursing homes and individuals involved arm themselves with reliable

weighting scale for accurate weight measurement. These scales, preferably sitting scales, for carrying out monthly weight checks must be regularly calibrated to ensure that they give an accurate reading. Weight can be measured in either imperial measurement (stones and pounds) or metric measurement (kilograms). To measure heights effectively, Coben and Roberts (2005) further suggest it requires a stadiometer, height measuring tool that is either placed against a wall or is free-standing. Here too measurement can be taken in imperial measurement (feet and inches) or metric measurement (meters and centimeters). In the absence of reliable stadiometer, the expert provides a useful method of estimating the height of an elderly person using the length of the arm between the wrist and the elbow (called the ulna length).

The group of experts' cautions that while this method allows some estimation of height to be made the estimation may be less appropriate for very elderly people and should always be used cautiously for the prediction of BMI (Body Mass Index). Poor estimation of height and weight can lead to misleading figures for BMI in older people who may misclassify some older people who are at risk of malnutrition, where it is difficult to obtain height and weight data. More important indications of risk may be weight loss, illness and leaving food on plates at meal times.

2.12 Sources of vitamins, minerals and trace elements

While providing the identification marks of the elderly who might be at risk of malnutrition, the Directorate of Public Health (2002) is quick to add that an elderly person eating well balanced diet should not be at risk of vitamin, mineral and trace element deficiency. The board provides a table which directs the elderly to the night dietary sources of vitamins, minerals and trace elements. The highlights of the table are as follows:

Table 2.2 Sources of Vitamins, Minerals and Trace Elements

Vitamin	Uses	Dietary Sources
Vitamin A or Retinol	Essential for vision in dim light. Maintenance of healthy skin and surface tissues	Retinol is found only in animal foods but milk and some vegetable foods contain carotenes that the body converts to retinol
Vitamin B or Thiamin	Necessary for the steady release of energy from carbohydrates	Widely distributed in animal and vegetable food, milk, offal, pork, eggs and whole grain cereals
Vitamin B2 or Riboflavin	Essential for the utilization of energy from food	Widely distributed especially in animal foods as milk, cheese, yoghurt, eggs, livers
Vitamin B6 or Pyridoxine	Involved in the metabolism of amino acids including conversion of tryptophan to nicotinic acid. Necessary for the formation of hemoglobin	Occurs widely in food, liver, kidney, sardines, oysters, heart, rabbit, other meats and some vegetables
Vitamin K	Necessary for normal blood clotting	Dietary, source includes spinach
Iron	Involved with the use of oxygen. Hemoglobin (formed from iron) transports oxygen from the lungs to the tissues	Offal, red meat, cocoa powder, cereal (whole grain), potatoes, vegetables and pulses
Calcium	Essential for the growth and maintenance of bones and teeth, contraction of muscles, nerve function and the activity of several enzymes	Few foods except milk, yoghurt, cheese and good source of calcium. Also found in much small quantities in flour, vegetables, bones and canned sardines
Vitamin C	Necessary for the maintenance tissue. Absorption of some types of iron. Man is one of the few animals that cannot form its own vitamin C and must obtain it from food	Small amounts found in milk and liver. Virtually all vitamin C is derived from fruit and vegetables especially citrus fruits, green vegetables and potatoes.
Vitamin D or cholecalciferol	Necessary for maintaining the level of calcium and phosphorous in the blood	Obtained from the action of sunlight on a substance in the skin. Few foods contain Vitamin D, margarines, only fruits, fish liver, oils and eggs
Fluoride	Associated with the structure of bones and teeth. Increase resistance to tooth decay	Drinking water is an important source, but natural concentration varies. Other sources include most toothpastes and milk washes, sea foods and tea.
Zinc	Associated with the activity of a large number of enzymes. Found in bones and brain tissues	Found especially in protein, containing food. Low blood zinc concentrations are associated with a diet that is based on processed snack foods

Source: Adapted after the Directorate of Public Health, Dundee (2002).

In addition to providing the chart above which prescribes the sources of vital vitamins, minerals and trace elements that can enhance or maintain the health of the elderly, the Tayside group of experts cautions that:

1. Diets rich in processed and snack foods can be found in low quantities in several vitamins, minerals or trace elements except in the case of sodium (salt) which may be found in excessive quantities;
2. Inappropriate cooking methods can reduce the quantity of the water soluble Vitamin C and B group;
3. To minimize losses, food should be prepared and cooked very near to the time of serving, and minimum quantity of water should be used for cooking;
4. Milk should be kept away from light. Fewer processed and snack foods should be used.

The Dundee City Council Directorate of Public Health (2002) makes it clear that it is not whatever the elderly takes or eats that is important for quality development. Those who care for the elderly are cautioned to provide balanced diet for the proper upkeep of the elderly. Another group of experts, the Walker Trust Group of Experts maintains that the body's ability to fight infection and diseases through the immune system diminishes with age, and this is likely to be one reason for the greater frequency of illnesses in older people, but maintaining good nutritional status will contribute to keeping healthy body defenses as people get older. This research finding clearly shows that we can minimize most of the health problems of the elderly with appropriate diet.

CHAPTER THREE

METHODOLGY

3.1 Overview

This chapter covers the research design, philosophical underpinning of the descriptive survey design, setting, population of the study, sample and sampling techniques and instruments of data collection,. Also included are trustworthiness of the study, ethical considerations and procedure for data presentation and analysis used to answer the research questions developed in Chapter One.

3.2 Research Design

The study adopted a descriptive survey design. Polit and Hungler (1999) posit that this form of research describes what exists and may help the researcher to uncover new facts and meaning. Polit and Hungler (1999) further argue that the purpose of descriptive survey is to observe, describe and document aspects of a situation as it naturally occurs. In the context of my study, therefore, the purpose was to observe, describe and document the nutritional practices and the associated health challenges of the elderly in the Effutu Municipality of the Central Region; specifically, Atietu and Winneba Zongo. This involved the collection of data that provided an account or description of individuals (the elderly), and the situation (phenomenon) studied. Instruments used to obtain data in descriptive survey according to Polit and Hungler (1999) include questionnaires, interviews (closed questions) and observation (checklists, *etc*.). Based on the multiplicity of instruments that can be used to gather data in a descriptive survey, The Association for Educational Communications and Technology (AECT) (2001) postulates that descriptive survey research does not fit neatly into the definition of either quantitative

or qualitative research methodologies, but instead it can utilise elements of both, often within the same study.

According to the AECT (2001), descriptive survey can be either quantitative or qualitative. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Glass & Hopkins, 1984) cited in AECT (2001). Because the human mind cannot extract the full import of a large mass of raw data, the AECT explains that descriptive statistics are very important in reducing the data to manageable form. When in-depth, narrative descriptions of small numbers of cases are involved, the research uses description as a tool to organize data into patterns that emerge during analysis. Those patterns aid the mind in comprehending a qualitative study and its implications.

The purpose of using the survey design was to generalize from a sample to a population and that inferences could be made about the characteristics, attitude or behavior of the population regarding their nutrition and health (Babbie, 2010). The survey was the preferred design for the following reasons: it is very economical in its construction; it has rapid turnaround time in data collection and it has the advantage of identifying attributes of a large population from a small group of individuals (Babbie, 2010).

3.3 Paradigm and Philosophical Assumption of the Approach

It is noted by Brannen (2005) that a researcher's choice of methods is said to be largely influenced by his or her philosophical assumptions. For this reason, the approach adopted for this study was influenced by the post positivist philosophical paradigm. Post positivism philosophical assumption believes that a reality exists, like the positivists do, even though they hold that it can be known only imperfectly and probabilistically. According to Gelo (2012) provides a strong basis and rationale for

survey research. Research designs are not different as in positivism even though they may be some adjustments. Also, sampling procedures remain the same as in positivist paradigm, although also convenience samples may be studied. Data collection and data analysis are still basically quantitative. However, post positivists are more open than positivists to qualitative methods, thus engaging very often in the use of both quantitative and qualitative approaches in a one study (Gelo, 2012).

3.4 Setting of the Study

The study was conducted at Atietu and the Winneba Zongo Communities in the Effutu Municipality of the Central Region of Ghana. The Effutu Municipality lies between the Gomoa East District to the western, northern and eastern flanks. On the southern flank is the Gulf of Guinea. The administrative capital is Winneba, a town renowned for its specialised major institutions of higher learning. It covers a total land area of 95 square kilometers (Lamptey and Donwazum, 2014). Data from the 2010 Population and Housing Census (PHC) indicates that the Municipality has a population of 68,597 which represents 3.1 percent of the total population of the Central Region. The municipality has fourteen settlements which are clustered around the Municipal capital, Winneba, of which the Atietu and Winneba Zongo are part.

3.5 Population

The target population was all residence of Atietu and Winneba Zongo communities whereas the accessible population consisted all elderly people, men and women aged 60 years and above in the two communities totaling 6108. According to the 2010 Population and Housing Census, the total population of the two communities is a little over ten thousand (Lamptey & Donwazum, 2014).

3.6 Sample and Sampling Technique

The sample consisted 100 elderly persons both males and females from Ateitu and Winneba Zongo. The purposive sampling technique was used in this study to particularly concentrate on the elderly in these communities, where Atietu is a rural community in the Effutu Municipality and the Winneba Zongo is located in Winneba town (urban). One important characteristic of these two communities is that many residents in both communities, especially, the elderly live below the poverty line according to the 2010 PHC (Lamptey and Donwazum, 2014). Also, the elderly are said to be nutritionally vulnerable. It is based on these reasons that the purposive sampling technique was used. To Babbie (2010), purposive or judgmental sampling is a kind of non-probability sampling technique in which the units to be observed are selected on the basis of the researcher's judgment about which ones will be the most useful or representative. This implies that the researcher built up a sample that was satisfactory to his specific needs or judgement (thus, poor communities and more especially the elderly). The researcher's classification of the elderly was based on the official compulsory retirement age in Ghana which is pegged at age 60 as a pre-condition. To be sure participants were within this age range, their NHIS cards were used to crosscheck and confirm the ages. To get the 100 participants for the study therefore, the snowball technique was used.

In the words of Babbie (2010) supported by Kumar (1999), non-probability sampling technique, usually employed in field research, in which each person interviewed may be asked to suggest additional people for interviewing. Similarly, Kumar (1999) maintains that snowball sampling is the process of choosing a sample using networks. To begin such a process, a few elderly individuals were selected and the required information collected from them. Those elderly people were then asked

to identify other elderly people in the two communities, and those people selected by them became a part of the sample. Information was then collected from them, and then these people were also asked to identify other elderly people of the communities and, in turn, those identified became the basis of further data collection. This process was continued until the 100 number- the saturation point was reached. The snowball sampling technique is useful if the researcher knows little about the category of people he\she wish to study, there is the need to make contact with a few individuals, who can then direct you to the other members of the group (Babbie, 2010). One key disadvantage to this technique, however, is that the choice of the entire sample rests upon the choice of individuals at the first stage. It is for this reason this technique was used alongside the quota sampling technique.

Kumar (1999) maintains that the primary consideration directing quota sampling is the researcher's ease of access to the sample population. In addition to convenience, the researcher is guided by some visible characteristic, such as gender, age or race, of the study population that is of interest to him/her. As a person who resides in the Effutu Municipality, precisely in Winneba town, the sample was selected from Atietu and Winneba Zongo convenient to me as a researcher. This is congruent to the explanation that Kumar (1999) gives to how a study sample should be selected using the quota sampling technique. And whenever a person with this visible relevant characteristic was seen, that person was asked to participate in the study. The process continued until one was able to contact the required number of participants (quota).

It is intimated by Babbie (2010) and Kumar (1999) that as the resulting sample through quota is not a probability one, the findings cannot be generalised to the total sampling population; and the most accessible individuals might have characteristics

that are unique to them and for that matter might not be truly representative of the total sampling population. These demerits of the technique notwithstanding, it can be said that in the use of quota sampling too, one does not need any information, such as a sampling frame, the total number of elements, their location, or other information about the sampling population; it is the least expensive way of selecting a sample; and it guarantees the inclusion of the type of people needed.

3.7. Instrumentation

Based on the purpose of the study, questionnaires, Focus Group Discussion (FGD) and observation were employed in the data collection process through which primary data were collected.

i. Questionnaire

To obtain information about the nutritional status and health of the elderly in Ateitu and Winneba Zongo, a survey instrument was designed from the extensive literature read on the topic. Section A of the survey instrument sought information relating to the bio-data of the respondents. Section B sought information on the eating patterns of the respondents. The survey tried to find out whether respondents had regular breakfast, lunch or evening meal and also whether they had gained or lost weight as a result of the eating patterns. It also tried to find out from respondents whether they were on special diet or food or on other food supplements as well as the reasons for the supplements.

Section C sought respondents' views on health situations. They were to indicate the extent to which they agreed or disagreed with statements on health situations. Research assistants were engaged to help administer the questionnaire. The research assistants went from house to house to administer the survey instrument to the respondents. Direction for completing it was given orally to the respondents and

respondents who could read and write were given the instruments to answer themselves. The expected total amount of time to complete the survey was 15 minutes. The respondents completed the survey instrument with no apparent difficulty. Instrument reliability was determined using the Cronbach alpha formula. The overall alpha for the instrument was 0.80. Since the alpha value was higher than 0.70, the instrument was judged reliable for data collection and the purpose of the study.

ii. Focus Group Discussion (FGD)

In the course of data collection, the researcher also used the FGD. According to Babbie (2010) and Hancock (2002), FGDs are of late increasingly employed in social research and in the public sector due to the fact that group interaction among participants has the potential for greater insights to be developed; limited resources prevent more than a small number of interviews being undertaken; and it is possible to identify a number of individuals who share a common factor and it is desirable to collect the views of several people within that population sub group. According to Hancock (2002), focus groups among others have the following characteristics:

i. The recommended size of a group is of 6 – 10 people. Smaller than this limits, the potential on the amount of collective information. More than this makes it difficult for everyone to participate and interact.

ii. The members of each focus group should have something in common, characteristics which are important to the topic of investigation. In the case of my study, the elderly who are seen as one of the vulnerable groups in every society and coupled with this is the fact that the settings for the study have been classified as poor communities as in Lamptey and Donwazum (2014)

meet this characteristic. Participants might or might not know each other. There are advantages and disadvantages to both.

iii. Following on from (2), focus groups are usually specially convened groups. It may be necessary or even desirable to use pre-formed groups but difficulties may occur. This is usually due to the pre-existing purpose of the group which can lead to the group having a particular perspective or bias which limits their potential for providing information. For example, pressure groups or groups with some political basis.

iv. Qualitative information is collected which makes use of participants' feelings, perceptions and opinions. Just as in individual interviews data collection and analysis is time consuming.

Through FGD, 5 groups of 5 members were organised in each community (thus 25 in Atietu and 25 in Winneba Zongo) in meetings. As a result, the "nutritional practices and health of the elderly interview guide" was designed and administered to fifty respondents representing 50% of the sample. The instrument consisted of open and close ended items and generally sought from respondents their nutritional practices and health challenges they face. One part of the guide sought from respondents whether they thought they were healthy or not. If they declared they were healthy, they were to rank order six conditions relating to healthy living using 6 for the highest ranked and 1 for the lowest. If a respondent declared he/she was not healthy, he/she was to rank order seven living conditions that cause the unhealthy situation using 1-7 with 7 being the highest rank condition and 1, the lowest. The second part of the FGD guide sought from respondents measures they considered important if they were to stay healthy and live longer. To actually do this, arrangements were made with the groups and at least 3 groups were met in a day.

3.8 Participant Observation

One other technique used in gathering data for this study was participant observation. Cohen, Manion, and Morrison (2003) explain that unlike the surveyor who asks standardized questions of a large representative sample of individuals, the case study researcher typically observes the characteristics of an individual unit- a child, a clique, a clan, a school, a family or a community. The purpose of such observation is to probe deeply and to analyse intensively the multifarious phenomena that constitute the generalizations about the wide population to which that unit belongs. Cohen, Manion, and Morrison (2003) further point out that whatever the problem or the approach at the heart of every phenomenon lies a method of observation. As a participant observation, the observer engaged in the very activities that were set out to be observed. Cohen, Manion, and Morrison (2003) observe that in a participant observation, the observation is done under cover and often, the cover is complete. The other participants simply see him as one of the group. They point out however that cover is not necessarily a prerequisite of participant observation.

For the purpose of this study, the researcher selected ten families (5 each in Ateitu and Winneba Zongo), and observed what meals each family eat and how each of them prepared breakfast, lunch and supper for the elderly members. This was done to corroborate the FGD responses given earlier on the nutritional practices of the elderly and the associated health challenges. It can be seen that the approach in gathering data adopted four dimension in Cohen, Manion and Morrison's (2003) observation dimensions, i.e. the observation was conducted casually (dimension 1), those being observed had full explanation (dimension 2), the focus of the observation was time bound (dimension 3) and the breadth of the observation was limited to

preparation of breakfast, lunch and supper of the elderly and not the whole family structure (dimension 4).

The researcher adopted the use of participant observation to supplement questionnaire and interview (FGD) as data gathering instruments because of the following advantages that observation has over other techniques:

1. Observation studies are superior to experiment and surveys when data are being collected on non-verbal behavior. The focus of this study is on the health status and nutritional practices of elderly citizens of Ateitu and Winneba Zongo of Winneba in the Effutu Municipality of the Central Region. These behaviours characteristics are non-verbal
2. In the observation study, the investigator was able to discern ongoing behavior as it occurred and was able to make appropriate notes about its salient features in relation to the topic under study. For example, notes were made on the consistency with which dietary and nutritional practices were carried out to confirm or disprove verbal or written statements.
3. The method enabled the researcher to develop a more intimate and informal relationship with those she observed, generally in more natural environments than those in which the surveys and interviews were conducted
4. The observation technique is less reactive than the questionnaire and interview as data gathering instruments. For example bias that can usually be introduced in interviews and verbal responses to questionnaires were very much reduced in observation under natural conditions. Moreover, the researcher could cross-check her interceptions of the meanings of the events she observed with the people being observed. This process, in a way removed completely or reduced

to a large extent, the subjective nature of the interview or questionnaire technique as data gathering instruments.

To ensure internal validity of the data gathered through observation, the researcher:

i. recorded the notes as quickly as possible after observation since the quantity of information forgotten is said to be very slight over a short period of time (Cohen, Manion, & Morrison, 2003).
ii. the notes were full enough to describe the events. This meant the researcher wrote fast enough to cover every detail of what she observed
iii. she typed her field notes immediately she finished with each day's work as it was easier to read a number of days after the event had been observed.

3.9 Validity and Reliability

Before the study, a pilot testing of the instruments was done in Kojo Bedu, a suburb of Effutu Municipality. During the pilot study, the questionnaire was administered to 10 elderly people who were also interviewed, one at a time, and their responses recorded. After the pilot testing, a few items of the 23 items had to be reframed because of the inconsistency that emerged from the responses gathered. As a result, the items had to be reframed to make them clear to respondents and resulted in similar responses from respondents as the questionnaire and FGD were conducted in the actual study. This showed reliable the instruments were.

The instrumentation can therefore be described as one of triangulation. Triangulation to Babbie (2010) is explained as the use of multiple data collection devices, sources, analysis, among others to establish the validity of findings. The

purpose of the triangulation was to cross-check responses from the various elements in the sample.

3.10. Data Analysis Procedures

Descriptive statistics were mainly used for the analysis. To answer the four hypotheses, a series of independent means t-tests were used to analyse the data collected in the third segment of the questionnaire. This method of analysis was chosen because the intent of that portion of the study was to test the effect of the variables between two groups of elderly citizens of Ateitu and Winneba Zongo as opposed to effect of the variables on each group of the elderly. The groups were (a) male citizens of Ateitu versus male citizens of Winneba Zongo and (b) female citizens of Ateitu versus female citizens of Winneba Zongo. The data obtained from the questionnaire and FGD schedule were edited and coded. They were then analysed using percentages and frequencies. This means that responses were tallied and expressed as percentages of the total expected responses using Statistical Package for Social science (SPSS) version 16. The open-ended items were grouped together into themes and used to explain the descriptive statistics and frequencies.

CHAPTER FOUR

DATA PRESENTATION

4.1 Overview

The purpose of this study was to examine the nutritional practices and health of the elderly in Ateitu and the Winneba Zongo in Winneba in the Effutu Municipality. More specifically, the study sought to find out the mode or pattern of nutritional practices of the elderly, the social and cultural factors that influence the nutritional practices as well as the knowledge level of the elderly of the relationship between health and nutritional practices.

Using a researcher-constructed survey instrument, data were collected from a sample of 100 elderly persons residing in Ateitu and Winneba Zongo. The sample consisted of 45 males and 55 females purposively selected. In addition, 50% of the sample were randomly selected and interviewed to gather additional data to expand and add breadth to the study. The interviewees were made of 20 males and 30 females. In addition, the researcher visited the homes of ten representatives of the two communities to observe personally how meals were prepared and to interact with family members. This formed the third data gathering instrument for the study. The interview and the observation form the qualitative part of the study. This chapter presents analyses of the data collected from the survey instrument, the interview guide and the participant observation.

4.2 Analysis of Self-administered questionnaire data

Section A of the survey instrument asked respondents to provide information relating to their bio-data. Tables 1-7 present a summary of these responses.

Table 4. 1: Residence and Gender of Respondents

	Community		Total
Gender	**Atietu**	**Winneba Zongo**	
Male	25	20	45
Female	30	25	55
Total	**55**	**45**	**100**

Table 4.1 shows that 55 of the respondents (55%) reside in Ateitu while 45(45%) reside in the Winneba Zongo. Of the 55 Ateitu residents, 25 are male while 30 are female. On the other hand, 20 of the 45 Winneba Zongo residents are males while 25 are female.

Table 4.2: Age Distribution of Ateitu Residents

Gender	**Ages**					**Total**
	60-65	66-70	71-75	76-80	Over 80	
Male	5	8	4	6	2	25
Female	12	9	6	3	-	30
Total	**17**	**17**	**10**	**9**	**2**	**55**

Table 4.3: Age Distribution of Winneba Zongo Residents

Gender	**Ages**					**Total**
	60-65	66-70	71-75	76-80	Over 80	
Male	4	5	6	2	3	20
Female	10	7	5	3	-	25
Total	**14**	**12**	**11**	**5**	**3**	**45**

From Tables 4.2 and 4.3, it can be seen that none of the female respondents in the two communities was more than 80 years old, and that majority of the female respondents are younger compared to their male counterparts. This reflects the typical pattern of Ghanaian marital relationships where usually the bride is younger than the groom.

Table 4.4: Educational Background of Ateitu Residents

	Level of Formal Education					Total
Gender	**No Education**	**Primary**	**JSS/Middle School**	**SHS/ 'O' Level**	**Tertiary**	
Male	4	6	3	5	7	25
Female	9	10	5	4	2	30
Total	**13**	**16**	**8**	**9**	**9**	**55**

Table 4 .5: Educational Background of Winneba Zongo Residents

	Level of Formal Education					Total
Gender	**No Education**	**Primary**	**JSS/Middle School**	**SHS/ 'O' Level**	**Tertiary**	
	8	6	1	1	2	18
Male	12	10	3	2	-	27
Female						
Total	**20**	**16**	**4**	**3**	**2**	**45**

Tables 4.4 and 4.5 indicate that 33 of the 100 respondents had no formal education. Of this number, 20 reside in the Winneba Zongo while 13 reside in Ateitu. It must be noted, however that the early education of the Winneba Zongo respondents who are said to have had no formal education involved Islamic Studies, the center piece of which education was the study of the Holy Quran. On the other hand, a high percentage of the respondents who have had tertiary education reside in Ateitu. This can be attributed to the fact that Ateitu shares a common boundary with the

University's North Campus and that many retired lecturers have taken up residence in that community.

4.3 Regular Pension

Table 4. 6: Pensioned and Non-Pensioned Respondents

Community	No. of respondents on pension	Respondents not on Pension	Total number of respondents
Ateitu	25	30	55
Winneba Zongo	8	37	45
Total	**33**	**67**	**100**

Table 4: 6 indicates that out of the 100 respondents only 33 are on regular pension scheme. Of this number, 25 are residing in Ateitu while 8 are in the Winneba Zongo Community. This distribution, again, underscores the fact that many of the elderly citizens of Ateitu are retired lecturers, school teachers and other public servants.

4.4 Length of Stay in Present Location

Table 4: 7 Length of Stay of Respondents

Community	Period of Stay					Total
	1-5 years	6-10 years	11-15 years	16-20 years	Over 20 years	
Atietu	20	15	10	5	5	55
Winneba Zongo	-	5	5	5	30	45
Total	**20**	**16**	**4**	**10**	**35**	**45**

From Table 4.7, it can be seen that majority of the respondents in the Winneba Zongo Community have lived almost all their life in the community while those in Ateitu bear the mark of a sojourners considering the number of years they have resided in that community.

As to whether the respondents were living with their wives or husbands, 90% of them indicated that they are still living with their wives and husbands. This implies that only 10% of the respondents are staying alone, without a wife or a husband. Invariably this situation has resulted from the death of one of the spouses.

4.5 Dependants

Item 5 of the survey instrument asked the respondents to indicate the number of dependants they were caring for. Table 4: 8 presents data on the respondents' dependants.

Table 4.8: Dependants

Respondents	Number of Dependants	Total Dependants
15	0	0
20	1	20
30	2	60
20	3	60
13	4	52
2	5	10
100		**202**

Table 4.8 shows that 15 of the respondents are in no way encumbered by any dependant while 20 of them have a dependant each and 30 have two dependants each. The information in this table is contrary to the assertion by King and Burgess (1997) that many elderly persons in the tropics do not feed well because they have a large number of dependants to cater for.

Sections B and C of the survey instrument together with the interview guide and the participant observation check list were meant to provide data to answer the three research questions and the null hypotheses. Data collected using sections B and C of the survey instrument were analyzed using frequency counts and independent means t-test at the 0.5 level of significance. Data collected relative to a particular

research question or hypothesis were analysed by first re-stating the question or hypothesis for emphasis. Data for the interview and the observation were analysed by verbal description (quantitatively).

4.6 Research Question 1: What are the nutritional practices of the elderly in Ateitu and the Winneba Zongo communities?

The object of this question was to explore the nutritional practices of the respondents- whether they usually took breakfast, lunch and supper and more importantly what constituted each of these meals. Items 1-10 in section B of the survey instrument provide information (data) to answer research question 1. Item 1 specifically asked respondents about breakfast and its composition. All the 55 respondents from Ateitu and the 45 from Winneba Zongo indicated that they took breakfast regularly. Table 9 provides a summary of the composition of the breakfast for the two communities.

Table 4.9: Composition of Breakfast

Ateitu			Winneba Zongo		
Components	**Freq**	**%**	**Components**	**Freq**	**%**
Tea and Bread	21	38.1	Hausa Koko & Koose	14	31
Milo and Bread	19	34.5	Hausa Koko & Masa	8	15.5
Coffee & Bread	5	9.3	Hausa Koko & Bread	10	22.0
Hausa Koko& Bread	10	18.1	Waakye & Fish	5	11.0
			Tea and Bread	8	15.5
Total	**55**	**100**	**Total**	**45**	**100**

From Table 4.9, it can be seen that" koko" with various combinations of" kose", "masa" and bread seems to be a very popular breakfast meal among the Winneba Zongo residents. Over 68% of the residents of Winneba Zongo resort to the use of koko as breakfast meal. On the other hand, the elderly residents of Ateitu largely resort to the use of Milo, Lipton tea and coffee with bread (the so called water

diet) as breakfast meal. Over 80% of the Ateitu residents take "water diet" for breakfast, while only about 18% of them take koko and bread. It must be noted that only about 15% of the elderly residents of Winneba Zongo take the so called "water diet" for breakfast. Therefore, while koko is very popular in Winneba Zongo, water diet is more popular in Ateitu. The addition of milk to the 'water diet' and koko makes breakfast in Ateitu and Winneba Zongo quite nutritious. People in the Winneba Zongo often use fresh milk.

4.7 Provision of Lunch

Item 4 of section B of the survey instrument asked respondents to indicate whether or not they take lunch regularly, and if they do what the composition would be like. They were also to explain the factors and circumstances that made it impossible for some of them to have lunch regularly. The responses to this question are tabulated in Table 4.10.

Table 4.10: Respondents Taking Lunch

Ateitu			**Winneba Zongo**		
Gender	**Freq**	**%**	**Gender**	**Freq**	**%**
Male	23	92	Male	18	90
Female	30	100	Female	25	100
Total	**53**	**96.4**	**Total**	**43**	**95.6**

From Table 4: 10, it can be seen that 8% of the male population of Ateitu and 10% of the male population of Winneba Zongo do not take lunch regularly. In terms of absolute numbers two males each in Ateitu and Winneba Zongo are not taking lunch regularly. On the other hand, the female population in both Ateitu and Winneba Zongo take lunch regularly.

Even though the number that does not take lunch may appear insignificant in terms of the larger population, they are still important because they go to confirm that

the health of a section of the elderly in the communities is at risk. Researchers at the Human Population Laboratory of the California Department of Health (1962) have established a positive correlation between health and longevity of the elderly and such variables as adequate sleep of at least 7 hours a day, good breakfast, lunch and supper, regular meals, weight control, not smoking big cigarettes, moderate alcohol consumption and regular exercise. The following reasons were advanced to explain their inability to provide regular lunch for themselves. While one respondent just stated "Hardship" as the reason another wrote "Due to hardship of living. Two others wrote "There is no money to buy food three times a day and "I don't feel for food". These reasons largely underscore the influence of the economic crunch on the eating patterns of the elderly in Ateitu and the Winneba Zongo communities. The composition of lunch for the two communities is found in Table 4.11.

Table 4. 11: Composition of Lunch

Ateitu			Winneba Zongo		
Type of Lunch	**Freq**	**%**	**Type**	**Freq**	**%**
Kenkey & Fish	28	50.9	Rice and vegetable stew	25	55.5
Kenkey & Stew	12	22.0	Waakye & fish	15	33.3
Banku & fried fish	10	18.1	Banku & fried fish	5	11.2
Waakye & fish	5	9.0			
Total	**55**	**100**	**Total**	**45**	**100**

The composition of lunch in both Ateitu and Winneba Zongo shows a preponderant reliance on meals derived from two cereals, rice and maize. Vegetable stew is only dominant in Winneba Zongo. In terms of nutritional standards, this is far from satisfactory as it doesn't portray a picture of balanced meal. According to experts, every meal of the elderly must be balanced with elements from the five food groups (King & Burgess, 1997; New Zealand Ministry of Health, 2013 and Directorate of Public Health, 2002).

4.8 Evening Meal (supper)

In both Ateitu and Winneba Zongo evening meal is eaten by all respondents (100%). The composition of the evening meal for Ateitu and Winneba Zongo was as found in Table 4.12.

Table 4. 12: Composition of Evening Meal (Multiple Responses)

Ateitu			Winneba Zongo		
Type	**Freq**	**%**	**Type**	**Freq**	**%**
Fufu and soup	25	29.30	Kenkey and fish	18	21.7
Banku and soup	18	21.70	Banku and soup	20	24.1
Bamku & Okro Stew	22	25.9	Rice balls and vegetable soup	45	54.2
Kenkey & Fish	20	23.1			
Total	**85**	**100.0**	**Total**	**83**	**100.0**

In Table 4.12, it can be seen that while a large proportion of Ateitu residents resort to eating fufu with palm nut or groundnut or light soup, a large percentage of Winneba Zongo residents take plain rice or Omo Tuo (rice balls) or two-zaafi with vegetable soup for evening meal. This shows that while elderly citizens of Ateitu are of Akan extraction and hence resort to fufu most of the time, the residents of Winneba Zongo mainly of Northern extraction resort to rice, rice balls, tuo-zaafi and vegetables soup. In the preparation of soup, fish features predominantly in both Ateitu and Winneba Zongo because it is easily available compared to meat and meat products. Asked to indicate the sources of the meals they take the following responses in Table 4.13 emerged.

Table 4.13: Sources of Meals: Multiple Responses

Ateitu			Winneba Zongo		
Source	**Freq**	**%**	**Source**	**Freq**	**%**
Freshly prepared food	55	64.7	Freshly prepared food	45	56.2
Reheated food	30	35.3	Reheated foods	35	43.8
Food from vendor	-	-	Food from vendor	-	-
Food from catering establishment	-	-	Food from catering establishment	-	-
Total	**85**	**100**	**Total**	**80**	**100**

What emerges from Table 4.13 is that in both Ateitu and Winneba Zongo, the elderly citizens eat either freshly prepared meals or meals left overnight and reheated the following day. They do not resort to buying food from vendors or restaurants. This is a healthy development as it helps them to avoid some of the food related diseases. Table 4.14 provides data on how food is stored by the elderly in Ateitu and Winneba Zongo

Table 4. 14 Methods of Storing Food

Ateitu			Winneba Zongo		
Method	**Freq**	**%**	**Method**	**Freq**	**%**
Room temperature **storage**	10	18.2	Room temperature **storage**	8	17.7
Refrigerator	30	54.5	Refrigerator	25	55.7
Deep freezer	15	27.3	Deep Freezer	12	26.6
Total	**55**	**100**	**Total**	**45**	**100**

Table 4.14 indicates that of the three methods of storing prepared food, the most popular in both Ateitu and Winneba Zongo is refrigeration. Storing food at room temperature is thus becoming outmoded according to information in Table 4.14. In both Ateitu and Winneba Zongo, snacks are eaten as part of lunch or supper sometimes, especially when oranges and water melon are in season.

4.9 Time for serving meals

Item 10 of the survey instrument asked respondents to indicate when they take breakfast, lunch and supper. Incidentally, Ateitu and Winneba Zongo residents seem to have similar time for these functions. Table 15 depicts these meal times.

Table 4.15: Meal Times in Ateitu and Winneba Zongo

Type of Meal	Time Taken
Breakfast	6am-9am
Lunch	12noon-2pm
Supper	6pm-8pm

Data in Table 4.15 indicate that almost all the elderly in both Ateitu and Winneba Zongo take their breakfast between 6am and 9am. Breakfast, in both places by implication does not go beyond 9am. This is a good practice as it agrees with the suggestion by the Dundee City Council Directorate of Public Health (2005) that breakfast for the elderly in nursing and private homes must be served early. Four of the elderly citizens indicated that they do not take lunch regularly as explained earlier on.

Out of the 96 who take lunch regularly only one takes his lunch around 3pm. He attributes this to work on the farm which keeps him very busy. Taking lunch between 12am and 2:00pm is in consonance with the suggestion of Owusu (2005) that lunch for all the elderly citizens must be taken between 12 noon and 3pm. Supper taken before 8pm allows food enough time to digest properly.

Research Question 2:

What is the level of awareness of the elderly in Ateitu and Winneba Zongo communities about their nutritional practices and their health?

Do the elderly in Ateitu and Winneba Zongo live on supplementary diet, vitamins, iron or cod liver oil? This question was meant to find out the extent to which the elderly in Ateitu and Winneba Zongo depended on supplements to maintain good health.

Table 4.16: Food & Vitamin Supplements taken

Atietu			**Winneba Zongo**		
Type of Supplements	**Freq**	**%**	**Type of Supplements**	**Freq**	**%**
Food	0	0	Food	0	0
Vitamin	1	1.8	Vitamin	1	2.2
Cod Liver Oil	0	0	Cod Liver Oil	0	0
Total	**1**	**1.8**		**1**	**2.2**

From Table 4.16, it can be seen that in both Ateitu and Winneba Zongo, the elderly generally don't rely on food and mineral supplements for a healthy living. Only two of them one each from Ateitu and Winneba Zongo use Vitamin C supplement. This implies that in general, the elderly in Ateitu and Winneba Zongo are able to obtain their nutritional requirements from the everyday food they eat.

Table 4.17: Changes in Weight

Atietu			**Winneba Zongo**		
Type	**Frequency**	**%**	**Type**	**Frequency**	**%**
Gain	2	3.7	Gain	0	0
Loss	0	0	Loss	0	0
No change	53	96.3	No change	45	100
Total	**55**			**45**	**100**

Table 4.17 shows that two of the Ateitu citizens have gained weight over the last one year period. Asked to explain why they had gained weight, the following answers emerged:

1. Eating of mashed kenkey
2. Eating well
3. Idleness
4. Farming activities
5. Not thinking about human beings
6. Peace of mind
7. Menopause. Stopped giving birth

4.11 Research Question 3

In what ways do the elderly assess their health in relation to the provision of nutrition they provide at home?

This question was meant to find out the extent to which the elderly citizens considered health in relation to the food they eat. This question is important because of the implication diet and nutrition has for the health of all human beings especially the elderly. A report by the New Zealand Ministry of Health (2013) postulates that most elderly people in the tropics are thin, anaemic and lack nutrients such as Vitamin A because

i. The older people and their families cannot afford to buy the good food that they need
ii. They have to care for and support many grandchildren
iii. They live alone and have no relatives to help them and care for them
iv. They live in homes which do not provide good meals
v. They have lost their teeth and find it difficult to eat foods which need to be chewed.

Owusu (2008) corroborates this view by pointing out that many elderly people in Ghana are afflicted with ailments many of which are diet related such as hypertension, diabetes and constipation. It is in the light of this that the survey instrument asked respondents to declare their health status and what type of ailment usually afflicted them. Among the elderly men of Ateitu, only 12 (48%) declared that they were being afflicted with one form of ailment or the other. Of the female elderly citizens of Ateitu, 15 (50%) are being afflicted with ailments. In the Winneba Zongo, 10% of the male respondents and 14 (56%) of the female respondents complained of

various types of ailments. Tables18 and 19 present data on the ailment situation in the two communities.

Table 4. 18: Common Ailments of Ateitu Elderly Citizens

Ailments	Male		Female	
	Frequency	% of sample	Frequency	% of sample
Diabetes mellitus	2	8	3	10
Hypertension	2	8	6	20
Constipation	3	12	1	3.3
Malaria	2	8	2	6.7
Persistent Headache	1	4	1	3.3
Jaundice	2	8	2	6.7
Total	12	48	15	50

The data in Table 4.18 shows that 13 of the elderly male citizens of Ateitu (52%) and 50% of the female elderly citizens of Ateitu declared themselves very fit, not disturbed by any ailment at the moment while in the Winneba Zongo, 50% of the male elderly citizens and 44% of the females declared they are hale and hearty, not afflicted with any ailment now.

Table 4. 19: Common Ailments of the Elderly in the Winneba Zongo

Ailments	Male		Female	
	Frequency	% of sample	Frequency	% of sample
Diabetes Mellitus	2	10	2	8
Hypertension	2	10	2	8
Impaired vision	1	5	1	4
Constipation	1	5	1	4
Malaria	1	5	2	8
Jaundice	1	5	2	8
Persistent Headache	1	5	2	8
Loss of Appetite	1	5	2	8
Total	**10**	**50**	**14**	**50**

Item 12 of the survey instruments asked the respondents the extent to which they agreed or disagreed to the statement that food is medicinal. Tables 4.20 and 4. 21 present responses of the respondents.

Table 4. 20: Ateitu Residents' views on Food being Medicinal

Responses	Male		Female	
	Frequency	% of sample	Frequency	% of sample
Strongly Agree	7	28	15	50
Agree	16	64	12	40
Undecided	2	8	3	10
Disagree	0	0	0	0
Strongly disagree	0	0	0	0
Total	**25**	**100**	**30**	**100**

Out of the 25 Male respondents of Ateitu, none disagreed with the statement that food is medicinal while only 2 of them (8%) were undecided. Out of the female respondents of Ateitu, it can be seen from Table 18 that none disagreed with the statement that food is medicinal. While 90% of the female respondents agreed with the statement, 10% were undecided.

Table 4. 21: Winneba Zongo Respondents' Views on Food Being Medicinal

Responses	Male		Female	
	Frequency	% of sample	Frequency	% of sample
Strongly Agree	8	40	20	80
Agree	10	50	5	20
Undecided	2	10	0	0
Disagree	0	0	0	0
Strongly disagree	0	0	0	0
Total	**20**	**100**	**25**	**100**

In the view of Owusu (2005), vitamins, minerals and trace elements needed by the elderly are normally contained in the natural food. Supplementary vitamins and minerals are, therefore, not needed except in extreme cases of vitamin and mineral deficiencies. Responses in Tables 20 and 21 indicate that the elderly in Ateitu and

Winneba Zongo depend essentially on natural foods for vitamins, minerals to maintain their health in general.

4.12 Research Question 4/Testing Hypotheses

What knowledge do elderly citizens have about nutritional practices in Ateitu and Winneba Zongo?

Section C of the survey instrument was meant to collect data on research question four and at the same time to test the set two null hypotheses. The instrument sought to find out the degree to which respondents understood and appreciated the basic facts relating to the nutrition and health of the elderly. They were asked to rate two groups of Likert scale items in terms of agreement or disagreement.

The analysis involved the use of independent means t-test at 0.5 significance level to compare the views and attitudes of Ateitu male respondents as against Winneba Zongo male respondents and Ateitu female respondents as against Winneba Zongo female respondents. For this type of analysis, responses were scored using the scale of 1-5. For positive statements, strongly agree was scored 5, agree 4, undecided 3, disagree 2, strongly disagree 1. For negative statements the scoring was reversed. The independent means t-test was meant to evaluate the difference between the means of the two independent sub groups; males of Ateitu versus males of Winneba Zongo and females of Ateitu versus females of Winneba Zongo. The place of residence divides the sample into two mutually exclusive groups, Ateitu and Winneba Zongo.

The test variable is the quantitative dimension involving the score of each group or category of respondents. The t-test evaluates whether the mean value of the test variables for a group differs significantly from the mean value of the test variables for the second group. The two test variables are:

i. Knowledge of value of good nutrition (KVN)

ii. Provision of nutrition at home (PNH)

The groups or categories whose mean scores will be compared on each of the test variables are Winneba Zongo males of:

1. Ateitu females and Winneba Zongo females

Before the testing of hypotheses to evaluate whether there were significant differences between groups in their mean scores on KVN and PNH, the researcher assessed the level of agreement or disagreement on KVN and PNH within each group of the sample. The researcher used Statistical Package for Social Sciences (SPSS) Version 16. Item by item analysis was done for each subgroup and the results were fed into SPSS software to generate mean score for each item in KVN and PNH. Since it was a five point scale a score of less than 3.0 was assumed to mean disagreement, while a mean of above 3.0 was assumed to indicate that respondents agreed to the item within the group. Table 22-25 represent the conversion of the responses of Ateitu males, Winneba Zongo males, Ateitu females and Winneba Zongo females on each item into mean scores.

Table 4. 22: Mean Scores of Ateitu males on KVN

Health Statements	Mean	Decision
1. To maintain good health/one must eat a well-balanced diet	4.8	Agree
2. I must also eat adequate diet	4.0	Agree
3. Adequate diet must contain high fibre	3.2	Agree
4. Adequate diet must contain low fat	3.6	Agree
5. Adequate diet must contain plenty of vegetables and fruits	4.0	Agree
6. My daily energy intake is equal to the energy expended	1.2	Disagree
7. Greater energy intake makes one obese	1.1	Disagree
8. A good diet reduces the risk of overweight	1.5	Disagree
9. A good diet reduces the risk of bone diseases	2.8	Disagree
10. A good diet is important in achieving recovery from illness & surgery	4.1	Agree
11. Adequate nutritional standards are crucial to the well-being of the elderly	4.5	Agree
Total	**34.7**	

Data from Table 4.22 shows that elderly males of Ateitu generally agree that to maintain good health, they must eat a well-balanced diet and that a good diet is important in achieving recovery from illness and surgery (mean score of 4.8 and 4.1). This tie in with data in Table 19 in which the general agreement was that food is medicinal. However, most of the males in Ateitu disagree that one's energy intake must be equal to energy expended and that greater energy intake can make one obese (Mean score less than 3.0)

Table 4.23: Knowledge of the value of Good Nutrition; Mean Responses of Winneba Zongo Male respondents

Health Statements	Mean	Decision
1. To maintain good health/must eat a well-balanced diet	3.2	Agree
2. I must also eat adequate diet	2.3	Disagree
3. Adequate diet must contain high fibre	2.8	Disagree
4. Adequate diet must contain low fat	1.8	Disagree
5. Adequate diet must contain plenty of vegetables and fruits	4.5	Agree
6. My daily energy intake is equal to the energy expended	3.2	Agree
7. Greater energy intake makes one obese	1.2	Disagree
8. A good diet reduces the risk of overweight	4.4	Agree
9. A good diet reduces the risk of bone diseases	3.9	Agree
10. A good diet is important in achieving recovery from illness & surgery	3.2	Agree
11. Adequate nutritional standards are crucial to the well-being of the elderly	4.2	Agree
Total	**34.7**	

Like their counterparts in Ateitu, the elderly male citizens of the Winneba Zongo Community do not agree that greater energy intake than what one has expended is one big source of obesity. They also generally disagree that adequate diet should consist of low fat.

Table 4.24: Knowledge of Value of Good Nutrition Mean Responses of Ateitu Elderly Women

Health Statements	Mean	Decision
1. To maintain good health/must eat a well-balanced diet	3.4	Agree
2. I must also eat adequate diet	3.5	Agree
3. Adequate diet must contain high fibre	2.5	Disagree
4. Adequate diet must contain low fat	2.1	Disagree
5. Adequate diet must contain plenty of vegetables and fruits	4.3	Agree
6. My daily energy intake is equal to the energy expended	2.4	Disagree
7. Greater energy intake makes one obese	2.6	Disagree
8. A good diet reduces the risk of overweight	2.1	Disagree
9. A good diet reduces the risk of bone diseases	2.8	Disagree
10. A good diet is important in achieving recovery from illness & surgery	4.4	Agree
11. Adequate nutritional standards are crucial to the well-being of the elderly	3.8	Agree
Total	**33.9**	

Data in Table 4.24 shows that elderly women in Ateitu do not agree that adequate diet for the elderly must contain high fibre and low fat. They also believe that overweight is a hereditary phenomenon and has nothing to do with one's diet.

Table 4. 25: Knowledge of the Value of Good Nutrition (KVN): Mean Scores of Winneba Zongo Elderly Women

Health Statements	Mean	Decision
1. To maintain good health/must eat a well-balanced diet	4.4	Agree
2. I must also eat adequate diet	4.3	Agree
3. Adequate diet must contain high fibre	3.9	Agree
4. Adequate diet must contain low fat	2.2	Disagree
5. Adequate diet must contain plenty of vegetables and fruits	4.4	Agree
6. My daily energy intake is equal to the energy expended	3.1	Agree
7. Greater energy intake makes one obese	4.1	Agree
8. A good diet reduces the risk of overweight	3.1	Agree
9. A good diet reduces the risk of bone diseases	3.3	Agree
10. A good diet is important in achieving recovery from illness & surgery	4.0	Agree
11. Adequate nutritional standards are crucial to the well-being of the elderly	4.4	Agree
Total	**38.2**	

It can be seen from Table 4. 25 that the elderly women of Winneba Zongo also don't agree that adequate diet for the elderly must contain low fat. The general belief among the elderly women of both Ateitu and Winneba Zongo might explain the crave for oily foods among elderly women.

To test whether there are any significant differences in the mean scores of the two communities on KVN, two t-tests were run for the mean score of the males and the mean scores of the females of the two communities. These results are presented in Tables 26 and 27.

1.6.2 Hypotheses

With regard to research question 4, two hypotheses were formulated as stated below:

H_0 There is no significant difference between elderly male citizens of Ateitu and the Winneba Zongo communities with regard to knowledge about healthy nutritional practices.

H_0 There is no significant difference between elderly female citizens of Ateitu and those of the Winneba Zongo communities with regard to knowledge about healthy nutritional practices.

This question was meant to provide respondents opportunities to assess their health status and the level of agreement among them that their health status is conditioned mainly by the nutrition they provide for themselves at home.

The responses are presented in Tables 28-31.

Table 4.26: Independent mean t-test results between elderly males of Ateitu and Winneba Zongo on the knowledge of the value of good nutrition factor (KVN)

Factor	Residence	N	Mean	SD	t	P-Value
Knowledge of the values of good nutrition (KVN	Atietu Winneba Zongo	25 20	34.8 34.7	3.3 3.1	0.17	1.76

P>0.05

1st Hypothesis

The null hypothesis tested was Ho_1. There is no statistically significant difference in the mean scores of elderly male citizens of Ateitu and Winneba Zongo on knowledge of the values of good nutrition (KVN).

Table 4. 26 shows that the results of the independent means t-test analysis indicated no significant difference between elderly males of Ateitu (M= 34.8, SD 3.3) and males of Winneba Zongo (M= 34.7, SD 3.1) in their knowledge of the value of good nutrition t (45) =1.76, P>0.5. Both elderly male citizens of Ateitu and Winneba Zongo have similar views on the value of nutrition to the elderly. They are likely, therefore to adopt the same attitudes to nutrition.

2nd Hypothesis

The second null hypothesis Ho_2 tested was that there is no statistically significant difference between elderly female citizens of Ateitu and female elderly residents of Winneba Zongo on knowledge of the value of good nutrition (KVN).

Table 4.27 The analysis.

Table 4.27: Independent means t-test results between elderly females of Ateitu and Winneba Zongo on knowledge of the value of good nutrition (KVN)

Factor	Residence	N	Mean	SD	T	P-Value
Knowledge of the values of good nutrition (KVN	Atietu Winneba Zongo	30 25	32.8 41.1	2.3 5.9	1.46	0.00

P<0.05

Table 4. 27 shows that independent means t-test analysis indicated significant differences between Winneba Zongo female citizens and Ateitu female citizens on the knowledge of the value of good nutrition. Winneba Zongo female respondents' (Mean 41.9, S.D 5.9) have better knowledge of the value of good nutrition as the female citizens of Ateitu (Mean 32.8, S.D 2.3).

Table 4.28: Levels of Agreement among elderly male citizens of Ateitu that their health is related to nutrition they provide at home

Nutrition and Health Statements	S A F (%)	Agree F (%)	U F (%)	D F (%)	S D F (%)	Total F (%)
You provide yourself adequate nutrition at home	18(72)	7(28)				25(100)
Because of adequate nutrition, you don't stand the risk of constipation and stomach disorders	15(60)	8(32)	2(8)			25(100)
Because of good nutrition, you don't stand the risk of diabetes	16(80)	4(16)	5(20)			25(100)
Because of good nutrition, you don't need supplementary vitamins and minerals	22(88)	3(12)				25(100)
You prefer vegetable oil to animal fats because animal fats have high cholesterol	18(72)	2(8)	5(20)			25(100)
You eat fruits and vegetables because they supply us vitamins and minerals	18(72)	2(8)	5(20)			25(100)
You eat Kontomire because of its high fiber and bulk	15(60)	6(24)	4(16)			25(100)
Very little refined sugar is used at Home	8(32)	12(48)	4(16)	1(4)		25(100)

Data in Table 4. 28 indicates that elderly male citizens of Ateitu ensure that they maintain good health by taking mainly diets of appropriate nutritional value. Eighty percent of them strongly agree that they provide for themselves adequate nutrition. They also agree that because of good diet, they don't need supplementary vitamins and minerals (88%) neither are they at risk in terms of constipation, digestive disorders and diabetes. The influence of fruits and vegetables on the health of the elderly male citizens of Ateitu is shown by their strong agreement to the statement (72%) that they eat fruits and vegetables because they supply them with vitamins and minerals.

Table 4. 29: Levels of Agreement among elderly male citizens of Winneba Zongo that their health is related to nutrition

Nutrition and Health Statements	S A F (%)	Agree F (%)	U F (%)	D F (%)	S D F (%)	Total F (%)
You provide yourself adequate nutrition at home	12(60)	5(25)	3(15)			20(100)
Because of adequate nutrition, you don't stand the risk of constipation and stomach disorders	15(75)	2(10)	2(10)	1(5)		20(100)
Because of good nutrition, you don't stand the risk of diabetes	16(80)	2(10)	-	2(10)		20(100)
Because of good nutrition, you don't need supplementary vitamins and minerals	17(85)	3(15)				20(100)
You prefer vegetable oil to animal fats because animal fats have high cholesterol	14(62)	3(15)	1(5)	2(10)		20(100)
You eat fruits and vegetables because they supply us vitamins and minerals	18(90)	2(10)				20(100)
You eat Kontomire because of its high fiber and bulk	14(70)	3(15)	1(5)	2(10)		20(100)
Very little refined sugar is used at Home	6(10)	2(10)	3(15)	7(31)	2(10)	25(100)

Table 4. 29 shows that 85% of the elderly male citizens of Winneba Zongo strongly agree that they provide themselves adequate diet and that because of good diet they don't stand the risk of several diseases such as constipation stomach disorders and diabetes. These responses confirm an earlier response in Section B that to maintain good health they must eat a well-balanced diet. Table 29 also shows clearly that the elderly males of the Winneba Zongo know the contribution of fruits and vegetables to their health and general well-being. However, like their Ateitu counterparts, their refined sugar intake needs to be controlled as a large proportion of them disagree that very little refined sugar should be used in their homes. The responses of Ateitu elderly women to the same health statement are depicted in Table 4. 30.

Table 4. 30: Levels of Agreement among Elderly Female citizens of Ateitu that their health is related to nutrition

Nutrition and Health Statements	S A F (%)	Agree F (%)	U F (%)	D F (%)	S D F (%)	Total F (%)
You provide yourself adequate nutrition at home	24(80)	6(20)				30(100)
Because of adequate nutrition, you don't stand the risk of constipation and stomach disorders	15(50)	9(30)	6(20)			30(100)
Because of good nutrition, you don't stand the risk of diabetes	15(50)	6(20)	3(10)	3(10)		30(100)
Because of good nutrition, you don't need supplementary vitamins and minerals	12(40)	15(50)	3(10)			30(100)
You prefer vegetable oil to animal fats because animal fats have high cholesterol	9(30)	3(10)	12(40)			30(100)
You eat fruits and vegetables because they supply us vitamins and minerals	12(40)	9(30)	3(10)	6(20)		30(100)
You eat Kontomire because of its high fiber and bulk	15(50)	6(20)	6(20)	3(10)		30(100)
Very little refined sugar is used at Home	6(20)	6(20)	-	15(50)		30(100)

In Table 4. 30, it can be realized that all the female elderly citizens of Ateitu agree that they provide nutritious meals in their homes. For that reason they do not stand the risk of diabetes or constipation and stomach disorders. Around 30% of them strongly agree that very little refined sugar is used at home. Their view point is similar to that of Ateitu male citizens

Table 4. 31: Levels of Agreement among Elderly Female Citizens that their health is related to nutrition

Nutrition and Health Statements	S A F (%)	Agree F (%)	U F (%)	D F (%)	S D F (%)	Total F (%)
You provide yourself adequate nutrition at home	20(80)	5(20)				25(100)
Because of adequate nutrition, you don't stand the risk of constipation and stomach disorders	18(72)	2(8)	5(20)			25(100)
Because of good nutrition, you don't stand the risk of diabetes	16(64)	8(32)	1(4)			25(100)
Because of good nutrition, you don't need supplementary vitamins and minerals	15(60)	8(32)	2(8)			25(100)
You prefer vegetable oil to animal fats because animal fats have high cholesterol	14(56)	8(32)	3(12)			25(100)
You eat fruits and vegetables because they supply us vitamins and minerals	15(60)	10(40)				25(100)
You eat Kontomire because of its high fiber and bulk	11(44)	5(20)	6(24)	3(12)		25(100)
Very little refined sugar is used at Home	4(16)	2(8)	1(4)	10(40)	18(72)	25(100)

Table 4. 31 also shows refined sugar consumption among the Winneba Zongo elderly females is high judging from the level of disagreement to the statement. On the other hand, most of the responses follow the trend of the male counterparts in agreeing that their health is sustained by eating adequate and nutritious meals with plenty of fruits and vegetables.

4.14 Hypothesis 1

Table 4. 32: Independent means t-test results between elderly males of Ateitu and elderly males of Winneba Zongo on the provision of good nutrition at home

Factor	Residence	N	Mean	SD	T	P-Value
Provision of nutrition at home	Atietu	25	43.3	2.8	0.14	0.1
	Winneba Zongo	20	41.0	2.5		

P<0.05

The level of provision of nutritious diet between the male citizens of Ateitu and Winneba Zongo was subjected to mean t-test analysis. The null hypothesis tested was Ho_3. There is no statistically significant difference between Ateitu males and Winneba Zongo males in the provision of nutritious diet at home. The data presented in Table 32 above shows that there is no significant difference between Ateitu males (Mean 43.2, SD 2.8) and the males of Winneba Zongo (Mean 41.0, SD 2.5) in the provision of nutritious diet at home. This means that, elderly males in the two communities provide almost the same level of nutritious diet at home.

4.15 Hypothesis 2

Table 4. 33: Independent mean t-test results between females of Ateitu and females of Winneba Zongo on the provision nutritious diet at home

Factor	Residence	N	Mean	SD	T	P-Value
Provision of nutrition at home	Atietu	30	40.3	1.3	0.20	1.01
	Winneba Zongo	25	42.1	1.2		

P<0.05

The independent means t-test presented in the table above shows again that there is no significant difference between the females of Ateitu (Mean 40.3, SD 1.3) and the elderly females of the Winneba Zongo Community (Mean 42.1, SD 1.2) in the level of provision of nutritious diet at home. This means it makes no difference

whether one is in Ateitu or Winneba Zongo. The efforts they make to provide nutritious diet at home is comparatively the same.

4.16 Presentation of Interview Results

As part of the data gathering procedure, face-to-face interviews were conducted with 50 respondents (i.e. 50% of the sample). This number consisted of 20 males and 30 females. The purpose of the interview was for the respondents to declare, after examining themselves, whether or not they were healthy and if they were, to confirm the specific things they did to keep healthy.

These interviews were formal and semi-structured with close-ended and open-ended questions to allow the elderly of Ateitu and Winneba Zongo to explain the basis of their health. Using the Nutritional Practice and the Health of the Elderly Interview Guide (Appendix B), each of the interviewees was interviewed soon after the completion of the questionnaire (survey instrument). Respondents were given codes instead of real names. Discussion with each respondent took approximately 15 minutes. Some of the interviews were conducted in the local dialect as some of the interviewees could not express themselves in English.

4.17 FGD Interview Question 1

The first interview question asked respondents to indicate whether or not they were healthy. The object of this question was to invite respondents to be very candid about their health condition. The question simply was “Are you healthy”. This question required an absolute “Yes” or “No” answer. Table 34 shows the responses of the male and female respondents across the two communities.

Table 4. 34: Declaration of Health Status

Gender	Yes	%	No	%	Total
Male	30	40.0	2	40	30
Female	30	56.0	-	-	20
Total	48	96.0	2	40	50

Table 4.34 indicates that of the 30 males who were selected for the interview, 28 declared themselves physically healthy while 2 of them declared that they were not so healthy. When the two were asked to explain one of them said he was diabetic while the second said he had had blood pressure for some time now. Both intimated that they were receiving medical attention. All the 20 females interviewed declared that they were healthy.

4.18 FGD Interview Question 2A

This question was a sequel to Question 1 and was meant specifically for those men and women who had indicated that they were healthy. Question 2A asked them to indicate the specific things they did to maintain good health.

Table 4. 35: Factors that kept respondents healthy (Multiple Responses)

Health Factor	Ateitu	Winneba Zongo	Total
I exercise regularly	20	18	38
I take alcohol occasionally	-	-	-
I take care of my diet	25	15	40
I sleep under treated mosquito net	15	10	25
I have regular medical checkups	5	5	10
I take care of my environment	20	5	25
Total	**80**	**53**	**133**

The most notable feature about Table 4.35 is that in both Ateitu and Winneba Zongo, the elderly citizens know that alcohol intake does not promote good health; they therefore abstain from it. Taking care of their diet was also very important in

keeping their bodies healthy. The data in Table 4.35 also indicates that the elderly in both Ateitu and Winneba Zongo knows that keeping their bodies healthy demands the provision other things in addition to good diet such as exercising regularly sleeping under a mosquito net and taking care of their environment.

4.19 FGD Interview Question 2B

This question also a sequel to Question 1 was meant for those respondents who declared in Question 1 that they felt they were not healthy. Question 2B asked them to state what exactly their health problem was. One indicated that he was diabetic while the other said he was hypertensive. Asked whether they knew that these two ailment were diet related in a way, they all responded "Yes"

4.20 FGD Interview Question 3: Has age affected your appetite?

This question was to find out the extent to which the elderly in Ateitu and Winneba Zongo have been affected by age in terms of their appetite for food. Owusu (2005) asserts that the elderly usually have poor appetite. The essence of this question was to find the extent to which this assertion applied to the elderly in the two communities. From the responses of the 50 elderly persons that formed the sample for the interview, Owusu (2005) was right to some extent. Quite a large proportion of the sample maintained that their level of appetite for food has reduced considerably. They claimed that in their youthful days, the appetite for food was felt very early in the morning, but at present the appetite for food was felt late morning around 8am. However, many of the elderly interviewed also maintain that age has had no effect on their appetite for food. This is the situation of most of the male elderly citizens interviewed. They also claimed that they are still eating what they used to eat in their youthful days.

4.21 FGD Interview Question 4

Are you on the National Health Insurance Scheme (NHIS? The essence of this question was to find out whether the NHIS has benefited the elderly interviewed in one way or the other. Responses from the 50 people interviewed indicated that they were all patrons of the scheme. However, they complained that most of the drugs prescribed by the doctors were not covered by the NHIS. One elderly person who had glaucoma that is increased pressure in the eye had this to say:

> My doctor told me that the eye drop he had prescribed to bring the pressure down was not on the NHIS recommended list of drugs and that it was quite expensive. It was my son who managed to get it for me in Accra

Another elderly person said he had a problem involving slowness of movement and his doctor had explained the problem as being due to sub optimal functioning of the thyroid gland. The thyroid function test the doctor recommended is not covered by the NHIS scheme and it is very expensive. They were all of the considered view that the special ailments of the elderly must be considered by the National Health Insurance Authority. For example, the drugs needed mostly by the elderly as well as surgery should be covered by the scheme.

4.22 FGD Interview Question 5

How does retirement from active service affect your eating pattern?

This question was intended to find out from the elderly citizens whether

a. They had challenges with feeding times as a result of their retirement from active service and if they had how they were coping with them
b. They had challenges with the type of food they wanted to eat now that they were on retirement

Responses to these questions indicate most of the respondents have been taking three meals per day as they had been doing when they were in active service. Only two of the respondents indicated that they have been compelled to do away with lunch because of reduced income. The majority of the respondents agree that the pension pay is meager, but they are still able to maintain three meals a day by supplementing their pension pay with remittances from their children and sometimes by falling on their savings. Those who are not on regular pension maintain three meals a day by engaging in part time teaching, crop farming and animal rearing, particularly goats and sheep.

As far as the type of food, was concerned all the respondents claim that they are still keeping to the plantain, cereals, tubers and beans and vegetables and fruits commonly found around Winneba. It is interesting to note that even those in Winneba Zongo rear goats and sheep, but for their own meals they use mostly fish because it is less expensive comparatively. They sell off the goats and sheep they rear and buy fish from the proceeds. They also claim that they eat home prepared meals, rather than buying from restaurants and food vendors. In this regard the men interviewed were full of praise for their wives for the extra efforts they make to provide them food.

4.23 Presentation of Observation Data

The third method the researcher used in gathering data for this study was observation. According to Best and Khan (1998), this can be employed in a quantitative research to collect data regarding the number of occurrences in a specific period of time, or the duration or very specific behaviours or events. The purpose of the observation was to gather firsthand evidence of the health status and the nutritional quality of the diet of a cross section of the sample. In this regard, the researcher randomly selected 10 respondents (10% of the sample) and arranged a

day's visit to each of them in Ateitu and Winneba Zongo. The 10 selected elderly citizens were considered adequate representation of the two communities. The researcher employed this medium to confirm the information (data) gathered from the survey instrument and the FGD interview.

Citing Patton (1990), Best and Khan assert that there can be five dimensions of observation that the observation can be of the setting or physical environment, social interaction, physical activities, non-verbal communication, planned and unplanned activities and interactions and unobtrusive indications. In this study, the researcher used the participant observation method. Nutrition Handbook for Community Workers in the Tropics (NHCWT) (1986) provides useful guidelines for observation of this type. According to NHCWT (1986), there are several ways of finding out what people eat and other things they do to keep fit. For this purpose, the guideline says the researcher can watch or observe them as he/she visits homes, shops or generally follow them around for a day. The researcher can also ask them to recall or say what they ate the day before or during the last 24 hours. The researcher must ask or observe what they usually buy, what they get from the garden or other sources, what is in the cupboard, safe or other storage area; the researcher must ask them to write down what they eat over several days, weeks or months. This is what they describe as Diet Record. What the researcher must also find out is how often food is eaten during a day or a week (Food Frequency) and observe or find out the number of servings of food from the six food groups that they eat at each meal or in a day plus extras such as sugar, seasoning and alcoholic beverages. The researcher can also ask about and observe activity and exercise. The Handbook summarizes the type of data (information) to be collected by providing a format which most researchers engaged

in this type of study can use to collect the relevant information. The Diet Activity, History Form (See Appendix C) was employed as a guide for the observation.

As the researcher participated fully in the preparation and serving of diets, she was studying the quality of nutrients, more particularly the fat, sugar and salt intake as well as the vegetable and fruit intake, the level or amount of water consumed per day and the spices and condiments used.

Appendix C, the Nutrition and Health of the Elderly observation and Interview Guide consisted of five sections (sections I-V). Section I deals specifically with breakfast while section II looked at lunch. Section III takes a look at evening meal. Section IV looks at general issues with regard to family relationships and exercises as components of the health and wellbeing of the elderly. Section V deal specifically with symptoms of ill health. Badoe (2005) regards section IV as very crucial because these symptoms are often indication of some inner health conditions.

The observation confirmed responses from the questionnaire that most of the elderly persons in Ateitu and the Winneba Zongo communities take their breakfast consisting mainly of Koko and bread and sometimes koko together with koose or masa regularly and usually around 8'O clock in the morning. Usually, no food drinks or fruits accompanied the main breakfast meal described above. They were generally found to be adequate in terms of quantity and some nutritional requirements such as fiber and protein. Addition of fruits could have made breakfast meal more balanced for the elderly in these two communities studied. This also indicated the most preferred breakfast meal was made from maize and millet which are abundant in the local market.

Rice and vegetable stew together with Waakye and fish usually form the main meals for lunch. Fufu and Banku with palm nut or groundnut soup are also important

meals for lunch. Kenkey and fried fish are also prominent as meals for lunch. It can be seen from the list here that local dishes form the foundation of lunch for the elderly in Ateitu and Winneba Zongo in Winneba. Apart from their easy availability, their importance is helping to reduce the economic hardships of the country. The most favorite dishes of the elders are fufu and banku with palm nut or groundnut soup. What is significant about meals taken by the elders for lunch is that none is a special diet, and that family members encourage elderly members to take their meals as enthusiastically as possible.

Like breakfast and lunch, evening meals usually consisting of banku and okro stew are eaten enthusiastically by the elders. Fufu with soup and tuo zaafi and mieyah form alternate meals for the evening. In terms of nutritional standards, these meals are adequate as the important nutrients such as protein and vitamins are found present.

As part of the observation, the researcher looked at the types of exercises the elderly in Ateitu and Winneba Zongo undertake. Quite a number of the elderly in Ateitu keep small backyard vegetable gardens while a few of the elderly in the Winneba Zongo keep goats and sheep with the active support of their grandchildren who normally take the animals to the field for feeding. In the evenings, television viewing forms the main source of entertainment before retiring to bed.

As Badoe (2005) points out that, external symptoms are often indications of problematic health conditions. For this reason the researcher took a critical look of the bodily conditions of the ten elderly persons who formed the sample for this segment of the study. Section D of the observation and interview guide provided the ingredients on which this health segment of the observation was based. There were

instances where the researchers ask the elderly to explain what she could not obtain through observation.

In all the elderly of Ateitu and Winneba Zongo communities were found to be quite healthy as they did not show any symptom associated with the elderly such as increasing constipation, persistent coughing, weakness and tiredness, obesity and dizziness. Two of them were however found to be wearing glasses because of vision problems.

Data from the questionnaire and the observation point out that old age has not made the elderly in Ateitu and Winneba Zongo leaves their health in jeopardy. For this purpose, they try to eat the appropriate meals and take the appropriate exercises.

CHAPTER FIVE

DISCUSSION

5.1 Overview

This chapter is devoted to the discussion of the results obtained from the analysis of data gathered to answer the various research questions.

5.2 Research Question 1

What are the nutritional practices of the elderly in Ateitu and the Winneba Zongo Communities?

The first research question sought to gather data on the nutritional practices of the elderly in Ateitu and Winneba Zongo. The main purpose was to find out if there were differences in the type of food eaten by the elderly in the two communities and if there were what socio-cultural factors accounted for the differences. From the analysis (Tables 4.9 – 4.12) the elderly in both Ateitu and Winneba Zongo take breakfast, lunch and supper regularly. Only two elderly males of the Winneba Zongo often failed to take lunch. Reasons given for this development bothered on financial difficulties.

The composition of breakfast in the two communities did not differ significantly. In both places, hausa koko prepared from local cereals like millet and maize formed an important component of the breakfast, together with bread and koose prepared from millet. In addition, beverages like milo and coffee are taken with bread. However, the beverages are more popular with Ateitu residents than the Winneba Zongo residents who resort mostly to hausa koko with koose or masa. According to the New Zealand Ministry of Health (2013) food choice is influenced by many factors including culture, availability and wealth conditions. The place of cultural influence in this particular case cannot be easily ruled out. Almost all the Winneba Zongo

residents are of the Northern Region cultural background where cereals form a major component of their staple food items.

Lunch for the Ateitu citizens is composed mainly of kenkey and fish or kenkey and stew, banku and fish and fufu and various types of soup. Among the Winneba Zongo citizens, lunch is composed of waakye, rice with vegetable stew, fufu with soup, rice balls with soup and rice with vegetable stew. In both Ateitu and Winneba Zongo, the composition of lunch is determined mainly by availability of food types. Even though availability of the various food types determines the composition of lunch, the choice does not run counter to nutritional requirements as they try to combine food types from almost all the food groups.

Evening meals in both Ateitu and Winneba Zongo consist of banku, kenkey, rice balls and fufu (Table 4.12). The meal is made phenomenally of cereals in the two communities. This seems to agree with the findings of Adigbo and Maddah (2011) that in most areas in Ghana cereals are considered as staple foods not only because they are cheap, but also because they are easily available. Fufu forms an important part of the evening meal. According to the respondents, fufu is usually accompanied with light soup, palm nut soup or groundnut soup. In the Winneba Zongo community, rice balls and tuo zaafi are often eaten with vegetable soup, richly embedded with fish most of the time, and meat occasionally. In terms of nutritional values, even though the respondents themselves may not be able to provide a critical assessment, any student of nutrition will be able to tell that the nutritional value of evening meal in both Ateitu and Winneba Zongo is quite adequate judging from their composition or selection from the food groups.

From Table 4. 13, it can be seen that in both Ateitu and Winneba Zongo, the elderly citizens eat freshly prepared and heated meals. Freshly prepared meals are

eaten in the mornings and in the evenings. In the afternoon, they eat mostly reheated meals as most of the children who help in food preparation will have gone to school. This is contrary to the finding of Marras and AgBendech (2016) that most Ghanaians working housewives cooked at the weekends and served them reheated within the week. It is quite obvious that reheated food will have lost some taste or some nutrients as a result of reheating; this is the best option in these circumstances. The food prepared in the morning is stored in refrigerators, deep freezers and at room temperature (Table 4. 14). Data from Table 14 also shows that in both Ateitu and Winneba Zongo, refrigerators and deep freezers are the most preferred choices for storing food, among the elderly citizens as against room temperature.

Times for serving meals in Ateitu and Winneba Zongo are similar. In both places, breakfast is served between 6am -9am while lunch is served between 12:00 noon and 2pm. Evening meals are served between 6pm and 8pm. The time for serving breakfast in particularly important as it in line with the Directorate of Public Health (2002) view that breakfast for the elderly must be served early. Time for serving evening meal in Ateitu and Winneba Zongo is also acceptable as it allows the elderly some time to relax before going to bed.

Research Questions 2

What is the level of awareness of the elderly in Ateitu and Winneba Zongo about their nutritional practices and health?

This question was intended to find out the meals schedules of the respondents, whether they were aware of any shortcomings in their dietary practices and whether they knew how to resolve them. Data from Table 4.15 indicates that only two respondents were using Vitamin C supplements. The implication is that the elderly in

Ateitu and Winneba Zongo are able, generally to obtain their nutritional requirements from the ordinary food they eat. This agrees with Owusu's (2005) assertion that it is only in exceptional cases that the elderly will have to live on food and mineral supplements.

According to Burgess (1997), many diseases including malaria and diabetes together with the inability of the elderly to eat appropriately can lead to loss of weight. Table 4.16 shows that none of the elderly citizens of Ateitu had lost weight in the last one year. On the other hand, two of them allege that they have gained weight, the main reasons being that they have been eating well or they have been idle for most of the time. In the case of the elderly, data from the analysis indicate that in both Ateitu and Winneba Zongo the elderly know that food is medicinal. Over 70% of the respondents in Ateitu and over 90% of the respondents in the Winneba Zongo community strongly agree or agree that food is medicinal. They do not therefore skip meals (Table 4.18). Only a small percentage is afflicted with diseases like diabetes and constipation which are diet related.

5.4 Research Question 3

In what ways do the elderly assess their health in relation to the provision of nutrition they provide at home?

What health challenges do the elderly in Ateitu and Winneba Zongo face? It has been said that the onset of old age comes with a number of health challenges (King & Burgess, 1997; Dundee City Council Directorate of Public Health, 2002; Owusu, 2005). The study reveals that the elderly in Ateitu are comparatively blessed.

Only a small proportion is afflicted with such ailment as diabetes, high blood pressure and constipation. These ailments are not peculiar to the elderly in the two

communities, in terms of Owusu's (2005) findings that the onset of old age comes with various health challenges. Analysis of the data shows that over 90% of both male and femal citizens of Ateitu as well as over 90% of the elderly in Winneba Zongo, both male and female agree that food is medicinal. This goes to confirm why they do well to provide for themselves three meals a day.

The data also indicates that the elderly of Ateitu and Winneba Zongo need to be educated on the effects of fats and refined sugar on their health. This is because most of them do not agree that adequate diet should have low fat and that they should use very little refined sugar at home.

5.5 Hypotheses

With regard to research question 4, two hypotheses were formulated as stated below:

H_0 There is no significant difference between elderly male citizens of Ateitu and the Winneba Zongo communities with regard to knowledge about healthy nutritional practices.

H_0 There is no significant difference between elderly female citizens of Ateitu and those of the Winneba Zongo communities with regard to knowledge about healthy nutritional practices.

This question was meant to find out from respondents whether they made adequate provision at home because of their knowledge of health-related diet. The data shows that generally in both Ateitu and Winneba Zongo adequate provision is made by the elderly in the provision of good diet. These provisions do not go waste. Rather because of good nutrition, they agree that they have reduced or even prevented the occurrence of many ailments. Several studies point out the positive relationship between good nutrition and health King and Burgess (1986) for example they

maintain that good food helps older people to stay healthy and active for a longer time and to resist infection. A study carried out by the New Zealand Ministry of Health (2013) said older people need nourishing food. The elderly in Ateitu and Winneba Zongo, from their responses eat fruit and vegetables, but need to be educated on the use of less, margarine, cooking oil, other fats and refined sugar.

Evidence gathered from the researcher's personal observation shows that food for the elderly in Ateitu and Winneba Zongo were carefully prepared and they ate with family members who provided them social support. This must have contributed immensely to the relative good health of the elderly in the two communities. This is important because studies by Lefton and Valvatne (1992) show clearly that negative attitudes of the people around the elderly, make them miserable in such circumstances and they don't see life worth living. In agreement with the views of the Human Population Laboratory of the California Department of Health, the elderly of Ateitu and Winneba Zongo virtually don't take alcohol, for religious and health reasons. Health and longevity of the elderly, according to the source is related to low consumption of alcohol among many other things.

From the observation, the researcher found that only a few of elderly in Ateitu and Winneba Zongo are suffering from diet related disease as obesity. This must be considered as feathers in the cap of these elderly persons because in many parts of Africa and Ghana in particular, obesity is regarded as a sign of good living. People who suffer from this condition are not aware that obesity results from energy intake being greater than the energy required by the body. The t-test analysis shows that the elderly women of the Winneba Zongo community have a better indigenous knowledge of the value of good nutrition than their counterparts in Ateitu. In the case of the males, there is no statistically significant difference between Ateitu males and

Winneba Zongo males in knowledge of the value of good nutrition to the elderly. As Millar and Abazaam (2008) point out, indigenous knowledge systems are defined as local knowledge held by indigenous peoples or local knowledge that is unique to a given culture or society. This is different from western knowledge systems which are designed scientifically to look out for feedback from the environment and to avoid natural perturbation. Indigenous people would look at nature and observe its vibrancy and meaning as well as regard it with awe and uncertainty. The study shows that even without western education, the elderly citizens of Ateiu and Winneba Zongo in Winneba display a good knowledge of the value of nutrients and they try to make efforts to provide, within their meager resources, the kind of diet that will give them adequate nutrition and health.

The analysis of data obtained from the study indicated that no significant difference between elderly males of Ateitu and males of Winneba Zongo in their knowledge of the value of good nutrition. That is, both elderly male citizens of Ateitu and Winneba Zongo have similar views on the value of nutrition to the elderly. They are likely, therefore to adopt the same attitudes to nutrition.

However, the study showed that there is a significant difference between Winneba Zongo female citizens and Ateitu female citizens on the knowledge of the value of good nutrition. The analysis indicated that Winneba Zongo female respondents have better knowledge of the value of good nutrition than the female citizens of Ateitu.

CHAPTER SIX

SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES

6.1 Overview

This chapter provides a summary of the major procedures used in conducting the study, the findings, the conclusions and recommendations based on the findings and for further study.

6.2 Summary of Findings

The purpose of the study was to examine the nutritional practices of the elderly in Ateitu and Winneba Zongo Community in Winneba, in the Effutu Municipality and the relationship between these nutritional practices and their health. The following major findings are presented in line with the objectives that were set to order to help attain the purpose:

Nutritional Practices of the Elderly in Ateitu and Winneba Zongo

1. The study revealed that the entire sample of elderly citizens of Ateitu and Winneba Zongo took breakfast and supper regularly.
2. About 4% of the sample did not often take lunch, mainly for financial reasons.
3. The food taken for breakfast and supper were usually prepared fresh. Lunch most of the time was a carry-over from the morning. This was done because in the afternoon most of the children might have left for school while most of the women might have left for the market.

Level of Awareness of the Elderly in Ateitu and Winneba Zongo of the Nutritional Value of Foods

The elderly in Ateitu and Winneba Zongo are aware of the medicinal importance of food. This awareness partly influenced the choice of food they made. Their cultural background and seasonal changes influenced choices, especially in the selection of fruits and vegetables.

Provisions the Elderly Make in their Homes Towards Good Nutrition and the Effects of these Provisions on their Health.

1. The elderly in Ateitu and Winneba Zongo are generally healthy because they generally provide for themselves meals whose nutritional value is high. In addition they try to exercise and avoid the consumption of alcoholic beverages. Two of the diets relate ailments afflicting them are diabetes and high blood pressure.
2. Meals for the elderly were served at the right time. While breakfast was served between 6am and 9am, lunch was usually eaten between 12noon and 3pm. Supper was eaten before 8pm. This gave times for the food to digest before they went to bed.

6.4 Conclusions

In the light of the findings, the following conclusions have been drawn:

Data from this study indicate that the elderly in Ateitu and Winneba Zongo have been relying on the locally available foods for their sustenance. They do not generally rely on food or mineral supplements to maintain or improve their health status. Diet-related ailments are therefore few even though some are not on regular pension. Because they have high level of indigenous knowledge of the value of nutrition they

adopt various strategies to provide nutritious meals for themselves in order to keep themselves healthy.

They generally try to take meals at the right time in addition to preparing balanced meals by combining elements from the various food groups in a single meal. Another strategy they adopt is the avoidance of consumption of alcohol. Apart from farming activities, some of them keep themselves healthy by exercising a lot and by keeping animals like goats and sheep on a small scale. In all these most of them have an advantage in that they do not have large numbers of dependants. They eat most of their food freshly prepared with the nutrition being intact. Generally, they do not allow low income to impact negatively on their diet and health conditions. They try to make adequate provision for balanced and nutritious meals. As much as possible, the elderly in Ateitu and Winneba Zongo eat what they were used to eating in their hay days.

6.5 Recommendations

Nutritional Practices of the Elderly in Ateitu and Winneba Zongo

The study reveals that some elderly persons in the two communities skip lunch mainly for financial reasons. Considering the ages of this category of citizens and the traditional respect, Ghanaians have for old age; this skipping of lunch is a matter of great concern. It is therefore suggested that the LEAP facilities being controlled by the Ministry of Gender and Social Protection should be extended to the elderly in these communities to alleviate their problems, to some extent. Furthermore, the few elderly that did not eat regularly must be encouraged to eat thrice daily. They must also be encouraged to make nutritional provisions such as eating freshly prepared foods and eating from home rather than from food vendors.

With regard to the level of awareness of the elderly in Ateitu and Winneba Zongo of the nutritional value of foods and the effects of these provisions on their health the following recommendations are made based on the findings:

The major problem with the elderly in Ateitu and Winneba Zongo is the fact that they do not seem to realize the negative effects of refined sugar and fatty and oily foods. Government and NGOs should encourage preventive programmes that they ought to institute as one of the ways in order to educate the general public and more especially, the elderly about ways to manage stress and other positive approaches toward health that will enhance and prolong life. The electronic and print media can be used to champion such a course.

In order to manage existing health disorders and to help prevent diseases among the elderly, behavioural interventions are necessary and important. With appropriate interventions, many people are clearly subject to change. These changes and modifications should relate to life-style problems such as obesity, smoking and hypertension, alcohol and other drug abuse. It is believed that one sure way to destroy a person's normal health and behaviour is through drug use that impairs memory, alertness and achievement. Consequently, the level of awareness must be raised regarding nutritional practices and its consequences.

Health workers (nurses, doctors, psychologists, etc.) alike should also organise outreach programmes where they can approach schools, homes and individuals, especially, the elderly with the view to making reduce the negative impact of unhealthy nutritional or dietary lifestyle.

They need to be educated on this. Since the two communities are not far from the University of Education, Winneba, it is recommended that the Department of Home Economics Education undertake an outreach or public education programme

from time to time in these neighbourhoods to sensitize the people, not only the elderly, on their diet, especially on the need to eat balanced diet and also to avoid overeating. They should be made aware that the amount of food an adult eats should be just enough to provide the energy he or she needs.

6.6 Limitations

In the course of the study, there were some limitations encountered. The first limitation has to do with the choice of respondents which was only limited to two communities out of nine in the Effutu Municipality. Even in Winneba Township, the study was limited to the Winneba Zongo area. The lack of community balance in the study, made it not sufficiently representative of the entire elderly population in the Effutu Municipality. The outcome of the study therefore can only be seen as an initial investigation of the nutritional practices of the elderly in the Effutu Municipality in particular and the country in general. To get a more transferable, generalisable and accurate picture nationally, a larger sample should be used to cover many other communities in the area or other regions in the country. Extending the study to many other areas across the nation would have increased the reliability and validity of the data through which generalisations could have been made though the data is still transferable.

Finally, communication with some of the elderly was quite difficult due to language barrier and hearing impairments. In view of this, the researcher contracted a research assistant that could help in the interpretation of the language while a combination of verbal and non- verbal means of communication were used during discussions. Efforts were also made to speak audibly to the hearing of all of the respondents. A few others also had problems with mobility hence their unwillingness

to participate in focus group discussions. The researcher therefore made such elderly's homes the centres for the discussion so they could participate actively.

6.7 Suggestions for Further Study

1. The study focused on nutrition and health of the elderly in Ateitu and Winneba Zongo Community in Winneba in the Effutu Municipality. Winneba is a fast growing town with a large population of fishermen. Fishing is a seasonal business, with the peak in July to September. It is suggested that a large scale study is conducted on the impact of the seasonal nature of fishing on the nutrition and health of fishermen in Winneba. Such a study may guide the government and other NGO's to introduce other employment avenues to keep the fishermen employed all year round with positive consequential effects on their nutrition and health
2. Again, the area of coverage of the topic could be extended to the whole region. That means a study could be done on Nutrition and the health of the elderly in the Central Region to give it a broader perspective. In effect, this calls for the replication of the study in a larger geographical area with a larger sample.

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APPENDIX A

NUTRITION ASSESSMENT OF THE ELDERLY IN ATEITU AND THE EINNEBA WINNEBA ZONGO COMMUNITY OF THE EFFUTU MUNICIPALITY SURVEYINSTRUMENT

Dear Sir/Madam,

This is a study being carried out by a student of UEW .It has been reviewed and approved by the Department of Home Economics Education. The answers you provide for this questionnaire will be analysed for educational purposes only. Participation is therefore voluntary.

Your participation will however help the researcher to gauge accurately the nutrition and health status of the elderly in the community. You are assured that your responses will be treated with utmost confidentiality. It is my plea, therefore that you respond to each item as frankly as possible. In most places, you will need a tick

Thank you for participating.

Linda Atta-Boison

APEENDIX B

QUESTIONNAIRE

SECTION A: BIO DATA

1. Gender : Male ☐ Female ☐
2. Age: 60-65 years ☐ 66-70years ☐ 71-75years ☐ 76-80 years ☐
   over 81 years
3. Educational level attained No education ☐ Primary ☐ JHS ☐
   SHS ☐ Tertiary ☐
4. Are you on regular pension? Yes ☐ No ☐
5. For how long have you been staying in Ateitu?
   1-5 years ☐ 6-10 years ☐ 11-15 years ☐ 16-20 years ☐
   over 21 years ☐
6. Are you staying with your wife or husband? husband wife ☐ None ☐
7. How many dependents do you have? ……

SECTION B: TYPES AND PREPARATION OF MEALS

1. Do you usually eat breakfast Yes ☐ No ☐
2. If no why?……
   ……
3. If yes, what food items do you normally eat?.....
4. 4. Do you usually eat lunch? Yes ☐ No ☐
5. If Yes what food items do you take?……..……
6. If no, please explain why?……
   ……
7. Do you usually eat supper (evening meal)?Yes ☐ No ☐
8. If yes, what food items do you normally eat?.....
9. If no, please explain why?…….....

10. At what time do you usually take:
    a. Breakfast ……
    b. Lunch ……
    c. Supper……
11. Which of these do you skip at times? Breakfast ☐ Lunch ☐ Supper ☐
12. Why do you skip meals?.....
13. What is the main source of the meals you take? (Tick as many as applicable)
    a. **Breakfast** i. Freshly prepared
       ii. Reheated food ☐
       iii. Food from vendors ☐
       iv. Food from catering establishment ☐
    b. **Lunch** i. Freshly prepared
       ii. Reheated food ☐
       iii. Food from vendors ☐
       iv. Food from catering establishment ☐
    c. **Supper** i. Freshly prepared
       ii. Reheated food ☐
       iii. Food from vendors ☐
       iv. Food from catering establishment ☐
14. Which of the following methods do you use mostly in storing your food items (Tick once only)
    i. Room temperature ☐
    ii. Refrigerator ☐
    iii. Deep freezer ☐
15. After supper do you have enough time to rest before you go to bed?
    Yes ☐ No ☐

HEALTH CHALLENGES OF THE ELDERLY

1. Have you gained or lost weight in the last one year? (Tick only one of the responses)

   Gained weight Yes ☐ No ☐

   Loss weight Yes ☐ No ☐

   No change Yes ☐ No ☐

2. If you have gained or lost weight, can you please explain why?

   ……

   ……

3. Are you on a special diet? Yes ☐ No ☐

4. If Yes, what kind of diet (Tick only once)

   High Protein ☐ Low Protein ☐

   Pepper free ☐ Salt free ☐

   Other special diet……

5. If you are on special diet, what medical condition caused it?

   ……

6. Are you taking any food supplement? Yes ☐ No ☐
7. If yes what kind of food supplement?.....……

8. Are you a vegetarian? Yes ☐ No ☐

9. If yes, what does your vegetarian diet consist of?.....

   ……

10. Do you take any food because of religion? Yes ☐ No ☐

11. Are you taking any vitamin supplement? Yes ☐ No ☐

12. Are you taking iron supplements? Yes ☐ No ☐

13. Are you taking cod liver oil? Yes ☐ No ☐

RELATIONSHIP BETWEEN NUTRITION AND HEALTH

14. Do you declare yourself very healthy? Yes ☐ No ☐

15. If No, what kind of ailment is afflicting you (Tick once only)

i. Diabetes? ☐
ii. Hypertension ☐
iii. Constipation ☐
iv. Malaria? ☐
v. Persistent Headache ☐
vi. Jaundice ☐
vii. Other ailment ☐

16. To what extent do you agree/disagree that food is medicinal? (Tick once only)

Strongly agree ☐
Agree ☐
Undecided ☐
Strongly disagree ☐

17. Are you aware that the following ailments are diet related?

i. Diabetes Yes ☐ No ☐
ii. Hypertension Yes ☐ No ☐
iii. Obesity Yes ☐ No ☐
iv. Renal disease Yes ☐ No ☐
v. Cancer Yes ☐ No ☐

SECTION C (PART 1): KNOWLEDGE OF THE VALUE OF GOOD NUTRITION

In this part of section, you are provided 11 statements on the relationship between nutrition and health. You are to mark your sheet by telling in how you feel about each statement. If you agree with a statement tick strongly agree. If you agree but no so strongly tick agree. If you are not sure whether you should agree or disagree tick undecided. If you disagree very much with a statement tick strongly disagree

Diet-Health Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. To maintain good health, one must eat a well-balanced diet					
2. One must also eat adequate diet					
3. Adequate diet must contain high fibre					
4. Adequate diet must contain low fat					
5. Adequate diet must contain plenty of vegetables and fruits					
6. One's daily energy intake is equal to the energy expended					
7. Greater energy intake one obese					
8. A good diet reduces the risk of overweight					
9. A good diet reduces the risk of bone disorder					
10. A good diet is important in achieving recovery from illness and surgery					
11. Adequate nutritional standard are crucial to the well-being of the elderly					

SECTION C: PART 2. PROVISION OF NUTRITION DIET AT HOME (PNH)

The following 8 statements are people's opinions on the extent to which provision should be made by the elderly in their homes to derive maximum health conditions. Kindly check each of the statements to indicate the extent to which you make provisions in your own homes.

Diet-Health Statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. I am provided adequate nutrition at home					
2. Because of good diet at home, I don't stand the risk of constipation and digestive disorder					
3. In my house, we don't need supplementary vitamins and digestive disorder.					
4. Provision is made for vegetable oils rather than fats in my house					
5. I make provision for kontomire because of its high fibre at bulk					
6. Very little refined sugar is eaten in my house					
7. We made provision for vegetables because they supply vitamins and minerals					
8. Provision is made for diet with a lot of fat and animal protein as it prolongs the life of the elderly					

APPENDIX C

NUTRITION AND HEALTH OF THE ELDERLY: INTERVIEW GUIDE

1. Name of the elderly ……
2. Gender …….
3. Age ……..
4. Address ……

Breakfast

1. Time Breakfast is eaten ……..
2. Consumption of breakfast (Tick as appropriate)
   - i. Koko [ ]
   - ii. Milo [ ]
   - iii. Tea leaves [ ]
   - iv. Coffee [ ]
   - v. Oat [ ]
   - vi. Bread [ ]
   - vii. Koose [ ]
   - viii. Masa [ ]
   - ix. Fruit [ ]
   - x. Friut drinks [ ]
   - xi. Other…….
3. Does the elderly take special diet? Yes [ ] No [ ]
4. If Yes, what type? ……
5. If Yes, on what medical grounds? ……
6. Is breakfast adequate nutritionally in terms of vitamins, calcium, fibre sugar content? …….
7. Which one is disliked? ……..
8. Approximate amount of food eaten (weight) ……
9. Does the elderly participate in the preparation? …….

II LUNCH

1. Time lunch is taken? ……
2. Type of lunch: Fufu [ ]? Rice [ ]? Omo tuo [ ]? Konkonte [ ]? Any other ……..
3. Types of accompanying soup: Palm Nut [ ], Groundnut [ ], Pepper soup [ ], Vegetable soup [ ] stew [ ]
4. Fish? Meat or mixture?
5. Approximate quantity eaten (weight)
6. Any accompaniment? Oranges, pineapples? Water melon or some fruit juice (Name it) ……
7. Favorite lunch ……? Fufu? Rice? Omo tuo? Or konkonte (Ask)
8. What role does the elderly play in preparation? (For example just sit before him or her, or takes part in preparation?)
9. Enthusiasm with which lunch is eaten.
10. Any special diet? Yes [ ] No [ ]
11. On what medical grounds
12. Do family members encourage the elderly to take? If Yes how? For example do they eat with him? Do they sit round to say Daddy this is liver; it is good for you?
13. Does he/she have problems with cleaning?

III SUPPER (EVENING MEAL)

1. Time evening meal is eaten?
2. Does the timing give adequate period for rest before bed?
3. How does he/she entertain himself/herself before retiring to bed?
4. What type of food…… fufu, kenkey, rice, omotuo?
5. With what? Soup, stew or fish?
6. If stew or soup, what type of vegetables? Palm nut? Groundnut?
7. Is the content adequate nutritionally in terms of vitamins, calcium, carbohydrates, fiber etc?
8. Any special diet? Yes [ ] No [ ]
9. If yes, why?
10. Does the elderly take a bit or a bottle of beer before meals? Yes [ ] No [ ]
11. If yes, why?
12. Which evening meals is a favourite? (ask)
13. Which evening meal is disliked (ask for a reason)
14. Is the evening meal adequate nutritionally by your estimate, in terms of vitamins, calcium etc. and condiments like salt and pepper?
15. Is the food adequate (quantity wise)

SYMPTOMS OF SOME COMMON ADULT AILMENTS PROF. E. A. BADOE

	SEEN	NOT SEEN
1. Persistent low appetite	[ ]	[ ]
2. Persistent coughing	[ ]	[ ]
3. Hoarseness of voice	[ ]	[ ]
4. Red eye	[ ]	[ ]
5. Affection of vision	[ ]	[ ]
6. Increasing constipation	[ ]	[ ]
7. Persistent vomiting	[ ]	[ ]
8. Persistent or recurring headache	[ ]	[ ]
9. Weakness of tiredness	[ ]	[ ]
10. Difficulty in breathing	[ ]	[ ]
11. Difficulty in hearing	[ ]	[ ]
12. Obesity	[ ]	[ ]
13. Persistent diahorrea	[ ]	[ ]
14. Swelling of ankles, feet, legs and body	[ ]	[ ]
15. Persistent difficulty in swallowing	[ ]	[ ]
16. Dizziness	[ ]	[ ]
17. Skin rashes	[ ]	[ ]
18. Persistent or recurrent fever	[ ]	[ ]
19. Lumps in any part of the body	[ ]	[ ]
20. Persistent pain in any part of the body	[ ]	[ ]
21. Abnormal behaviour	[ ]	[ ]

22. Difficulty in passing urine	[ ]	[ ]
23. Frequency in urination	[ ]	[ ]

Source: health & disease Ed. By Pof. S.K. Owusu

V General

1. Exercises taken regularly eg walking, jogging, dancing, skipping, keep fit club
2. Times per week exercise is done
3. For how long is exercises taken each day (2 hours, 3 hours)
4. Sports engaged in each week
5. About how many hours of sleep each day? (evening and siesta)
6. Last time the elderly visited the doctor or a hospital or dietician?
7. Does he/she usually eat in a restaurant? Morning, afternoon, evening if the answer is yes
8. Extent of margarine/cooking oil and other facts, sweets, starchy foods, vegetables, etc
9. Extent of foreign foods eaten
10. Does the elderly keep a garden or animals? If yes, does it reflect in life such as food and living standards?
11. What is the relationship between the elderly and the family? Do they come round to support and comfort him/her or stays alone?
12. Do family members encourage him/her to eat well
13. Using your experience as a student in Home economics, how do you assess the health of the elderly?