

UNIVERSITY OF EDUCATION, WINNEBA



**ASSESSING THE NUTRITIONAL KNOWLEDGE AND PRACTICES
OF CAREGIVERS FOR THE AGED IN THE NORTH DAYI DISTRICT
OF GHANA**

MILLICENT GEORGINA AKU ATTA MOTTE



MASTER OF PHILOSOPHY

2025

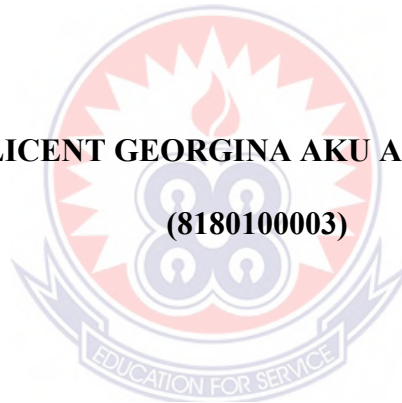
UNIVERSITY OF EDUCATION, WINNEBA



**ASSESSING THE NUTRITIONAL KNOWLEDGE AND PRACTICES
OF CAREGIVERS FOR THE AGED IN THE NORTH DAYI DISTRICT
OF GHANA**

MILLICENT GEORGINA AKU ATTA MOTTE

(8180100003)



**A thesis in the Department of Food and Nutrition, Faculty of Health, Allied
Sciences and Home Economics Education, submitted to the School of
Graduate studies, in partial fulfilment
of the requirements for the awards of the degree of
Master of Philosophy
(Food and Nutrition Education)
In the University of Education, Winneba**

NOVEMBER 2025

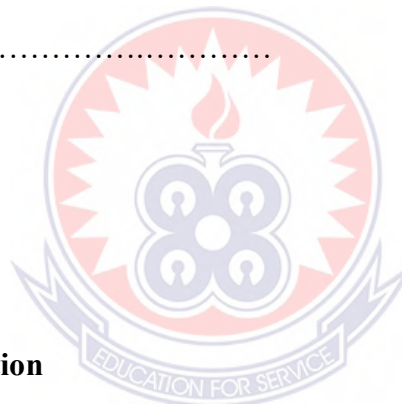
DECLARATION

Student's Declaration

I, Millicent Georgina Aku Atta-Motte hereby declare that this thesis with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is the result of my original research, and that, it has not been submitted, either in part or whole for another degree in this university or elsewhere.

Signature:

Date:



Supervisor's Declaration

I hereby declare that the preparation and presentation of this thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University of Education, Winneba.

Name of Supervisor: DR. THERESA AMU

Signature:

Date:

DEDICATION

I dedicate this work to my lovely husband, children, father, and siblings for their unwavering support, encouragement, and sacrifices throughout this journey.



ACKNOWLEDGEMENTS

I am deeply grateful to Almighty God for the strength, divine protection, and wisdom bestowed upon me throughout the successful completion of this thesis and the MPhil programme. I would like to acknowledge and express my gratitude to the following people for their magnificent support and contributions to my journey and to the creation of this work. I am particularly indebted to Dr. Theresa Alexandra Amu, for taking time off her busy schedules to supervise my work, and give insightful suggestions that have brought me this far. I am also grateful to the other lecturers who played various roles, directly and indirectly, in ensuring the successful completion of this programme. My appreciation further goes to Dr. Charles Obeel of CODEL, UEW, for his encouragement and support. To my husband, Mr. Winfred K. Dumoga, and my children, I am grateful for your love, patience, and unwavering support throughout this journey. I appreciate my brother, Harry Atta-Motte, for his immense assistance and to the rest of my siblings, I could not have asked for more. Finally, I extend my sincere thanks to Mr. Joseph Ocloo, Ms. Gloria Emefah Cudjoe, and the Naalɛ Group for their support.

God richly bless you.

TABLE OF CONTENTS

Content	Page
DECLARATION	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF ACRONYMS	xiii
ABSTRACT	xiv
CHAPTER ONE: INTRODUCTION	1
1.0 Overview	1
1.1 Background to the Study	1
1.2 Statement of the Problem	3
1.3 Purpose of the Study	5
1.4 Research Objective	5
1.5 Research Questions	6
1.6 Significance of the Study	6
1.7 Delimitation	7
1.8 Limitation	7
1.9 Organization of the Study	8
CHAPTER TWO: LITERATURE REVIEW	9
2.0 Overview	9
2.1 Theory of the Study	9
2.1.1 The Task-Specific Theory	9

2.1.2 Hierarchical-Compensatory Theory	10
2.2 Empirical Review	12
2.2.1 Ageing	12
2.2.2 Aged Characteristics	13
2.2.3 The Caregiver	14
2.2.4 Caregiving Support for the aged	14
2.3 Conceptual Framework	15
2.3.1 Conceptual Framework for the Study	16
2.3.2 Conceptual Review of Nutritional Knowledge and Practices	16
2.3.3 The Concept of Nutritional Knowledge	16
2.4 Nutritional Knowledge in Caregiving	21
2.5 The Role of Nutrition in Physical Health of the Aged	25
2.6 Nutritional Practices of Caregivers	26
2.7 Relationship between Nutritional Knowledge and Practices of Caregivers	27
2.7.1 Influence of Nutritional Knowledge on Practices of Caregivers	28
2.7.2 Meal Timing and Regularity	29
2.8 Factors that Influence Caregiver Recruitment and Retention	30
2.8.1 Economic Factors	31
2.8.2 Social Factors	32
2.8.3 Environmental Factors	32
2.9 Lessons Learnt from Literature	33
2.10 Summary	33
CHAPTER THREE: METHODOLOGY	35
3.1 Overview	35
3.2 Research Design	35

3.3 Research Approach	37
3.4 The Study Area	38
3.5 Population	39
3.6 Sample and Sampling Techniques	39
3.7 Data Collection instrument and Procedures	41
3.8 Validity and Reliability of Research Instruments	41
3.9 Data Analysis	42
3.10 Ethical Considerations	44
3.11 Chapter Summary	46
CHAPTER FOUR: RESULTS AND DISCUSSION OF FINDINGS	47
4.0 Overview	47
4.1 Demographic Characteristics of Respondents	47
4.2 RQ 1: what nutritional knowledge do the caregivers of the aged in the North Dayi District of the Volta Region of Ghana have?	55
4.2.1 Training or education for aged caregiving	55
4.2.2 Exposure in caring for the aged	55
4.2.3 Ideas about aged nutrition	56
4.2.4 Food safety practices	57
4.2.5 Summary on Research Question 1	57
4.3 RQ 2: What nutritional practices do caregivers for the aged in the North Dayi District employ in providing care for the aged?	58
4.3.1 Daily feeding times	58
Figure 2: Number of times that the aged are fed.	59
4.3.2 Specific feeding times	59
4.3.3 Food safety practices	61

4.3.4 Summary of Research Question 2	63
4.4 RQ 3: What influence does nutritional knowledge of caregivers have on their practices in providing care for the aged?	63
4.4.1 Cleanliness	63
4.4.2 Satisfaction derived from caregiver’s service.	64
4.5 RQ 4: What factors influence the nutritional practices of the caregivers of the aged in the North Dayi District?	68
4.5.1 Social factors – relationship between aged and caregivers	68
4.5.2 Economic factors	69
4.5.3 Environmental factors	69
4.6 Chapter Summary	70
CHAPTER FIVE: SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER RESEARCH	72
5.1 Overview	72
5.2 Summary	72
5.3 Summary of Key Findings	74
5.3.1 Nutritional Knowledge of Caregivers of the Aged	74
5.3.2 Nutritional Practices of Caregivers for the Aged	74
5.3.4 Nutritional knowledge of caregivers that influence their nutritional practices	75
5.3.5 Factors influencing the nutritional practices of the caregivers of the aged	75
5.4 Conclusions	76
5.5 Recommendations	76
5.6 Suggestions for Further Research	77
5.7 Contribution of the study to the Body of Knowledge	78
APPENDICES	83

APPENDIX A

83

APPENDIX B

85



LIST OF TABLES

Table	Page
4.1: Community distribution of respondents	48
4.2: Gender of the Aged and the Caregivers	49
4.3: Age distribution of the Aged and the caregivers	51
4.4: Marital status of the Aged and the Caregivers	52
4.5: Educational background of Caregivers	53
4.6: Remuneration of Caregivers	54
4.7: Times that meals were served the aged	60



LIST OF FIGURES

Figure	Page
1: The Conceptual Framework	16
2: Number of times that the aged are fed	59
3: Cleanliness of home and kitchen environment	64



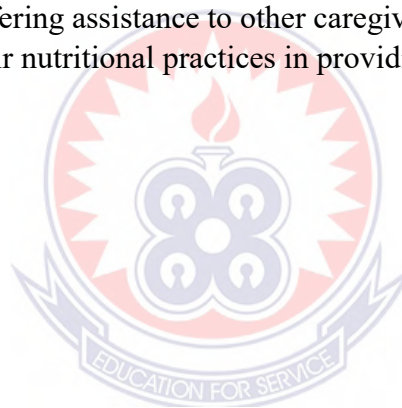
LIST OF ACRONYMS

FAO of UN	Food and Agriculture Organization of the United Nations
KAP	Knowledge, Attitude and Practice
WHO	World Health Organisation
WPP	World Population Prospects



ABSTRACT

This research addresses the nutritional gap left between the studies on gerontological nutrition and nutritional studies of younger persons as administered by caregivers. It examines the nutritional knowledge and practices which influence the dietary wellbeing of older adults in three selected towns Wusuta, Vakpo, and Anfoega in Ghana's North Dayi District. These communities were chosen due to the observed retirees returning to these areas to spend their later years. Fifty (50) aged individuals and fifty (50) caregivers, were sampled, employing a qualitative research approach within a case study design. By providing insights into the unique challenges and opportunities in these communities, this study contributes to the global body of knowledge on gerontological nutrition and underscores the need for further localized research to inform policies and practices. Nutritional knowledge and its impact on nutritional practices are increasingly critical in today's world, where feeding challenges abound. Aging brings heightened vulnerability and diminished immune support, and this makes appropriate nutrition essential for older adults. It was revealed that although the caregivers had very little or no professional training or tutoring about aged caregiving and nutrition, they had acquired basic information through exposure; practice, observation, and by offering assistance to other caregivers of the aged at the household level which guided their nutritional practices in providing care for the aged.



CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter consists of background to the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, delimitation, limitations, and organisation of the study.

1.1 Background to the Study

Nutritional knowledge and practice are important aspects of maintaining a healthy lifestyle. According to a study conducted by Food and Agriculture Organization of the United Nations (FAO, 2014) which focused on the assessment and analysis of nutrition-related Knowledge, Attitude and Practice (KAP) which is useful for gaining understanding of determinants of dietary habits overtime, the impact of nutritional knowledge on nutritional practices has also gained prominence in the research arena and continues to do so. The importance of nutritional knowledge in improving feeding practices cannot be overemphasized. For instance, Weddle and Wellman (2009) found that family caregivers of Alzheimer's disease patients had a high demand for education in nutrition especially tailored nutrition information to equip them with the knowledge and skills necessary to provide optimal care for their patients (Mole, Kent, Abbott, Wood, & Hickson, 2018).

In another instance, Chege and Kuria (2017) posit that one of the major determinants of dietary practices among children is the nutritional knowledge of their caregivers. This implies that whether or not caregivers provide optimal nutrition depend on their level of nutritional understanding. According to Halder and Kejriwal (2016), during the first five (5) years of a child's life, the caregiver's level of education especially that

of the mother affects whether or not food given the child is nutritionally good. The caregiver's (mother's) familiarity with elementary matters of paediatric health and nutrition greatly informs actions taken.

Kemboi (2021) states that one of the major causes of long-term malnutrition issues in individuals is caregivers' lack of nutrition education resulting in incorrect nutrition understanding and practices of caregivers. Lindsay et al., (2008) categorize the causes of inappropriate food provision patterns in the aged into two, namely, cultural and social factors. Poor nutritional understanding of caregivers and a lack of knowledge on food diversity are examples of social constraints, while local preferences for low-quality foodstuffs, taboos, and other limiting traditional beliefs are examples of cultural factors. Furthermore, low dietary diversity, low feeding frequency, and low food and energy intake among the aged were all ascribed to poor nutritional awareness of caregivers (Saloojee et al., 2007). In emphasizing the significance of nutritional knowledge of caregivers, Shi and Zhang (2011) argued that the level of nutritional knowledge of caregivers to a large extent, helps in eliminating the cultural and traditional misconceptions about some food stuffs and feeding practices, and therefore, helps in improving feeding practices of care receivers.

In another development, Wilchez, Sánchez and Dáz (2019) point to the importance of communities having adequate level of knowledge about the composition and importance of nutrition characteristics of food available in their environment; fostering changes in mindsets that promote hygiene, self-care, good dietary habits resulting in good health. The assumption here is that a community's nutritional knowledge and traits are crucial to nutritional practices including that of caregivers. Thus, it is crucial to equip caregivers with the information they need to adjust their feeding methods. Studies

support the claim that caregivers' dietary knowledge translates into appropriate nutritional practices and feeding habits (Appoh & Krekling, 2005; Sunguya et al., 2013). Nutritional knowledge is having appreciable level of information and understanding of the concepts, processes, and practices of nutrition towards enhancing one's health status (McKinnon et. al., 2014). The discussions above suggest that the nutritional expertise of caregivers is significant in influencing their nutritional practices for the persons they care for including the sick, children and the aged.

Studies on caregivers' nutritional knowledge influence on their nutritional practices of the aged have mainly focused on professional caregivers and health workers who have formal know-how of their work; however, there are situations where care for the aged is not provided by professionals nor health workers, and also not necessarily in care-homes or facilities. In Ghana there seems to be limited information about professional caregiving for the aged in designated facilities, aged caregiving is usually done at the household level with people who do not have adequate information about aged caregiving. It is assumed that such persons may lack nutritional knowledge which is likely to influence their nutritional practices. It is thus believed that such situations are worth investigating.

1.2 Statement of the Problem

Literature suggests that the world's demography is changing and tilting towards the ageing population. The Lancet Healthy Longevity (2022) published that the world's population reached the height of 8 billion people in 2022, a population partly incident by high birth rates in some parts of the world, but predominantly occasioned by increases in human longevity brought about by public health measures, improved nutrition and advancement in medical care. WHO (2022) posits that in 2020, the

number of people aged 60 years and above were more than children under 5 years and data from World Population Prospects (WPP) presents that globally, one out of six (6) people (16%) will be aged 65 and over, up from one in eleven (9%) by 2050 (United Nations, 2019). This is reiterated by Pablo (2023) indicating that in 2022, there were 771 million people aged 65 years and over globally, accounting for almost 10% of the world's population, is expected to hit 16% in 2050, and eventually 24% by 2100. As already stated, this is as a result of good public health measures, improved nutrition and advancement in medical care (The Lancet Healthy Longevity, 2022). The National Institute on Ageing (2022) indicates that currently the continent of Africa has the fewest older adults and lowest proportion of older adults in the overall population in the world. This may be due to lifestyle, availability, and accessibility of advanced health services and nutrition.

In Ghana's case, the aged population is steadily reflecting global trends. Improved health care, reduced fertility and improvement in survival rate have placed Ghana's older population that is 60 years and above which is among the highest in Sub-Saharan Africa. The estimated older adult population of 4.5% in 1960 increased to 6.7% in 2010 and is expected to hit 9.8% by 2050. This trend presents challenges to the care of the aged in Ghana (Essuman & Mate-Kole, 2021). In addition, majority of the aged in Ghana (59%) live in rural communities where employment opportunities are limited making it difficult for them to earn adequate income. Thus, most aged people depended on the traditional extended family support systems in which children and younger family members are expected to reciprocate the care received from their parents and relatives. However, unemployment among the rural youth, deny them the opportunity to earn income and provide for their aged parents and relatives (Essuman & Mate-Kole, 2021). Youth migration from rural areas to urban areas and sometimes abroad in search

of better job opportunities has led to increasing isolation and neglect of the aged. For those of the youth who are gainfully employed, increasing demands on their time and performance have contributed to the aged being left on their own for longer periods. Females, who are considered more as caregivers than males, through the quest for education and employment are not available to perform their caregiving roles presenting a further problem for the aged (Essuman & Mate-Kole, 2021).

Reports indicate that the aged in Ghana require support and this has been confirmed by the WHO (2015) report on Ageing and Health states that more than 50% of older people aged 65 and 75 years in Ghana required some assistance with activities of daily living and therefore require the support of caregivers. The role of caregivers in ensuring that the aged receive appropriate care cannot be underestimated and it is estimated that the caregivers should be adequately informed to be able to meet the needs of the aged. One area that is thought to be critical in care of the aged is nutrition because it is scientifically proven that nutrition promotes good health. It is against this background that this study sought to investigate the nutritional knowledge and practices of care givers of aged persons in the North Dayi District in the Volta Region of Ghana.

1.3 Purpose of the Study

This study assesses the nutritional knowledge and practices of care givers for the aged in the North Dayi District of Ghana.

1.4 Research Objective

Specifically, the study sought to:

1. examine the nutritional knowledge of caregivers of the aged in the North Dayi district of the Volta Region of Ghana

2. assess the nutritional practices of caregivers of the aged in the North Dayi District.
3. investigate the influence of caregivers' nutritional knowledge on their practices in the care of the aged in the North Dayi District.
4. explore factors influencing the nutritional practices of the caregivers of the aged in the North Dayi District.

1.5 Research Questions

The study was guided by the following research questions.

1. What nutritional knowledge/information do caregivers of the aged persons in North Dayi district have?
2. What nutritional practices do caregivers for the aged in the North Dayi District employ in providing care for the aged under their care?
3. What influence does nutritional knowledge of caregivers have on their practices in providing care for the aged?
4. What are the factors influencing the nutritional practices of the caregivers for the aged they are caring for?

1.6 Significance of the Study

The study sought to assess the nutritional knowledge of caregivers providing care for the aged in the North Dayi district of the Volta region. This is because nutrition has implications for health and the aged need to be healthy to enjoy life. The data collected will highlight the nutritional background of the caregivers, information the caregivers have, sources of the information and how relevant they are in meeting the nutritional needs of the aged in the North Dayi District'

In order to improve the nutritional practices among the aged, their caregivers should be regarded as a significant factor to make this possible. As a result of this, it is imperative to know the level of caregivers' knowledge as they cater for the aged. It is therefore expected that the results of this study would enable caregivers of the aged know their level of nutritional knowledge and seek for more education when appropriate. In addition, the results of the study would help in examining the nutritional practices of caregivers for the aged. This would also enable caregivers of the aged to know the appropriate nutritional practices for the aged and encourage them.

The results of the study would help in finding out the extent to which nutritional knowledge of caregivers influence their nutritional practices for the aged. This would enable caregivers of the aged to seek for more knowledge to add to their repertoire. Finally, the results of the study would add up to the existing literature in Ghana on the implications of nutritional knowledge of caregivers on their nutritional practices for the aged.

1.7 Delimitation

The study focused on the influence of nutritional knowledge of caregivers on their nutritional practices for the aged they care for in the North Dayi District of the Volta Region. Target population for the study was delimited to non-professional home-base caregivers who are in the majority and were caring for the aged. The study was carried out in three towns namely Anfoega, Vakpo and Wusuta.

1.8 Limitation

The major limitation to this study was the initial attitude of the targeted respondents for the study. Some of them felt uncomfortable disclosing information about the aged whom some of them revere to outsiders. They initially thought of it as divulging homes secrets on their care recipients. However, the stamped letter of introduction from the

department of Home Economics Education and the explanation provided by the researcher allayed their fears and they opened up.

1.9 Organization of the Study

The study was organized into five (5) chapters. The introductory chapter, Chapter One discussed the Background to the study, Statement of the problem, Purpose of the study, Objectives of the study, Research questions, Significance of the study, Delimitation and Limitation of the study, Definition of terms, and Organization of the study.

The Chapter Two focused on reviewing relevant literature related to the study. The review of literature was organized under the following themes: Theoretical framework; Ageing and the aged; Caregiving and characteristics of caregivers; the conceptual framework of the study - Nutritional knowledge and nutritional practices of caregivers; Factors influencing nutritional practices of caregivers; The effect of nutritional knowledge on nutritional practices of caregivers; and summary. Chapter Three presents the research methodology for the study. The methodology comprised the Research design; Setting of the study; Population of the study; Sample and sampling techniques employed in the selection of respondents; Data collection procedures; Data collection instruments; Analysis and presentation of results and Ethical considerations. Chapter Four covers the Results and discussion of findings, which was done in relation to the themes derived from the objectives of the study. The themes generated included Demographic data; Nutritional knowledge of respondents; nutritional practices employed by respondents; nutritional knowledge influence on nutritional practices of respondents; challenges influencing the nutritional practices of respondents. Chapter Five, the last chapter of the study presented the Summary of the study, conclusions, and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter presents the description of the literature regarding the implications of nutritional knowledge of caregivers on their nutritional practices for the aged. This chapter is broken into several subsections. The first sub-section is a theoretical framework that focused on the Social Network Theories, followed by a systematic review of the various concepts and the conceptual framework. The empirical review, which is the next sub-theme, was devoted to determining the possible correlations that exist among the variables. The chapter concluded with a summary of the literature reviewed.

2.1 Theory of the Study

This study was based on the Social Network Theories developed by Worcester (1990). Social Network Theories postulate that when people interact with one another, they create diverse networks of relationships with varying degrees of mutual support. Thus, Social Network Theories proposed that social interactions between individuals lead to heterogeneous relationships that have different levels of supportiveness (Pierce, Sarason, & Sarason, 1991). It is the number, frequency, and linkages between people and groups that make up one's social network (Worcester, 1990). There are two social network theories; the Task-specific theory, and Hierarchical compensation theory.

2.1.1 The Task-Specific Theory

The task-specific theory identifies primary, informal, and formal groups as the three types of social networks (Messerli, Silverstein, & Litwak, 1993). This theory teaches different social networks have different characteristics, and that these characteristics

allow different network groups to do certain tasks in an optimal manner (Messeri, et.al, 1993). This approach also highlights the fact that most people have varying needs, and that cooperation between formal groups and primary/informal groups is generally required (Messeri et al, 1993). Furthermore, even within the core groupings of spouses, children, relatives, and non-relatives, the supply of aid differs across relationships. One common example is a dedicated married couple's shared household. As a result, they maintain consistent contact and are able to sustainably offer social support. Neighbours, like spouses, may be easy to communicate with since they are closer to the recipient of care but they are less likely to make long-term commitments (Messeri et al,1993).

2.1.2 Hierarchical-Compensatory Theory

The preferences of recipients are emphasized in hierarchical-compensatory theory. According to this theory, the priority of a caregiver's relationship with an aged or client is determined by the primacy of the carer and aged recipient (Messeri et al., 1993). Marital support is highly valued by the elderly. Those who cannot reach them directly typically turn to their children, then other family members, then friends and neighbours, in communities (Cantor, 1991; Messeri et al., 1993). Hierarchical-compensatory classifications can be made for the social network. These hierarchical-compensatory patterns emerge from the past in response to the older person's need for help (Cantor, 1991; Messeri et al., 1993).

From the theories it can be reasoned that the relationship between care givers and care receivers have been considered as networking (Nagatomo et al, 1999). Caring is an essential component of the human phenomenon and crucial for the continual survival of the human species as biological beings (Leininger, 1998). Older adults need various kinds of good nutrition and care giving. Informal care giving has been defined in many

different ways. In most of the literature, informal caregiving has been conceptualized mainly as an activity or a set of tasks to assist physical needs (Cho, 2007). Old age support and care which can be provided by caregivers may be simplified into three categories, physical, social or emotional and economic.

Marriage, having children, and having additional relatives or friends can all provide social or emotional support within a family. Remittances, donations, and personal sources of income all contribute to the financial aid that the aged receive, which is then used to meet their needs (Lloyd-Sherlock, 2004). Children, other relatives, generous donors, or the elders' own assets and savings can all contribute to the costs of providing care for the aged. The loss of one's ability to work, and one's income, combined with declining health and the inability to care for oneself, all contribute to a later-life state of dependence (Quadagno & Street, 2005). Care for the aged, whether provided by family, friends, neighbours, or the government, is necessary so that the old can age in peace and maintain their dignity as they age. To survive, people of all ages need help with instrumental and functional support when they are unable to do it for themselves as part of their activities of daily living (Zimmer & Dayton, 2005). Nutritional knowledge of caregivers on their nutritional practices for the aged could be borne as a result of the reasoning of the theories. This is because the aged often require assistance with daily tasks like grocery shopping, cooking, sweeping, washing, and similar chores because of a lack of physical ability or health issues. As a result, they need someone to offer certain assistance to them. This implies that such persons need to be knowledgeable to offer good care and appropriate nutritional or adequate nutritional knowledge which is likely to influence their nutritional practices for the aged.

2.2 Empirical Review

This component of the review of the empirical literature is crafted to meet the unique aims of this investigation. It will review the work of predecessors which will aid in avoiding the errors of prior scholars by revealing their reasoning and conclusions and emphasising areas of accord and agreement. Following the structure of the research questions that served as the basis for this review.

2.2.1 Ageing

According to Jayanthi, Joshua, and Ranganathan (2010), ageing processes are defined as those that increase the susceptibility of individuals, as they grow older and to the factors that ultimately lead to death. To the researchers it is clear that ageing is the progressive accumulation of changes with time and that are associated with or are responsible for the ever-increasing susceptibility to disease and death which accompanies advancing age. They explain that, ageing refers to any time-related process and is a continuous process that starts at conception and continues until death. In general ageing is a concept in gerontological literature to describe some measures in specific ways – physical and sociogenic.

LEWIS

1. Old people are sick and disable.
2. Most old people are in nursing homes.
3. Being senile is associated with age.
4. People either get very tranquil or very cranky as they age.
5. Old people have lower intelligence and are resistant to change.
6. Old people are not able to have sexual intercourse and are not interested in sex anyhow
7. There are few satisfactions in old age.

2.2.2 Aged Characteristics

Ageing or the period of ageing has many important aspects especially its relationship to life. It has particular attributes, and to society, and its attractiveness. This state can be explained by its being different biologically, psychologically, sociologically, and clinically from the individual's period of maturity. If ageing is a normal period of life, different from the preceding period of maturity or adulthood, then it must have certain distinguishing characteristics. Some of the characteristics are as follows:

1. Old age is a period of decline - decline comes partly from physical and partly from psychological factors. There is change in body cells due to the ageing process. Unfavourable attitude towards one self and life in general can lead to decline or become depressed and disorganized.
2. There is a lack of flexibility of outlook, an increasing inability to meet and deal with new situations
3. There are individual differences in the effects of ageing. People age differently because they have different hereditary endowment, different socio economic and educational backgrounds and different patterns of living. The general rule is physical ageing precedes mental ageing.
4. Old age is judged by different criteria - age is judged in terms of physical appearance and activities. One who has white hair is labelled as old. There are many who try to cover up their ageing symptoms to create illusion that they are not yet old.
5. There are many stereotypes of old people - be it folkloric, the media, in poetry, fiction, jokes or different forms of humour or with scientific studies, all portray the aged as those who are worn out physically and mentally, are unproductive,

accident - prone, hard to live with, days of usefulness are over, and should be pushed aside to make way for younger people.

2.2.3 The Caregiver

A caregiver, according to Lewis (2002), is the individual who is responsible for the client's care. These individuals include home-health aids, day-care providers, teachers or educational aids. Apart from that Eliopoulos (2005) stated that a caregiver is 'the person who provides services, look after, or assist with personal care and home management of another member'. The major role of gerontological nurses is that of caregiving. The important issue is for the caregiver to help the older adults and their family members to acquire self-care of the aged. Notwithstanding, the role of the nurse, according to Eliopoulos (2005), was of the view that families are absorbing more responsibilities in caregiving of the old people. This is to the extent that ill older people are being kept in the home setting.

2.2.4 Caregiving Support for the aged

As a society, we have always depended on families to provide emotional support, and to assist their older parents, grandparents, and other family members when they can no longer function independently. There is an increasing complexity and scope of caregiver responsibilities including the issues involved in family caregivers' role as surrogate decision makers, and the evidence on the impact of caregiving on the health and well-being of caregivers of older adults.

Schulz, Beach, Czaja, Martire, and Monin (2020) also agreed that family members are the primary source of support for older adults with chronic illness and disability. Despite many common experiences, caregivers' roles are highly variable across the course of caregiving. Whatever the situation might be whether the timing of entry into

the caregiving role, the duration of the role as the caregiver, or the nature of the caregiving role (Gitlin and Wolff, 2012). Schulz et al (2020) expressed the extent of caregiving by saying “Caregiving is not a new role for family members. People have always provided emotional, physical, and financial support to family members and others that they feel close to; what has changed in the past three decades is the number of individuals who take on this role, the duration and intensity of care provided, and the complexity of the care delivered. The ageing of the population, increased longevity of older adults with significant chronic disease and disability, and an underfunded and fragmented health and social support system have all contributed to placing the major burden of care on family members. Caregivers provide a valued service to family members and society, but sometimes at great cost to themselves.

2.3 Conceptual Framework

According to Adom et al. (2016), the conceptual framework is the research's "road map," making it easier to understand and apply the ideas presented in the paper. Consequently, Figure 1 depicts the underlying conceptual framework of the current investigation.

2.3.1 Conceptual Framework for the Study

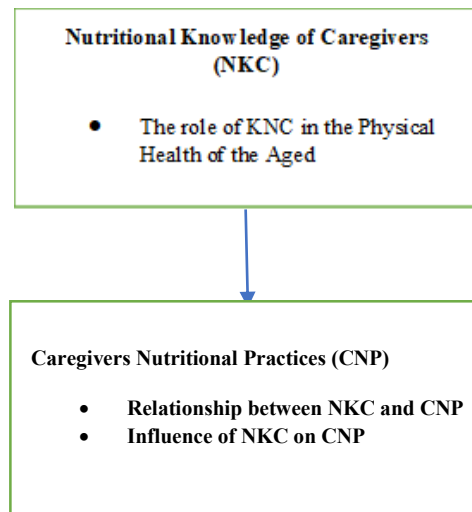


Figure 1: The Conceptual Framework

Source: Author's Construct, Atta-Motte (2022)

In this framework, nutritional knowledge of caregivers has a great influence on caregiving. This influences caregivers' nutritional practices in terms of contents of food, relationship between diet and diseases, food selection and preparation habits and their attitude towards feeding the aged.

2.3.2 Conceptual Review of Nutritional Knowledge and Practices

Our understanding of the many factors and theoretical frameworks at play in this research will be strengthened by this synthesis. Caregivers' nutritional awareness and their actual dietary habits are the determining factors. As such, the many approaches taken in the literature in defining and quantifying these concepts will be discussed.

2.3.3 The Concept of Nutritional Knowledge

Nutritional knowledge defined as an understanding of the principles, functions, and the application of proper nutrition, play critical roles in caregiving for the aged. This involves recognizing how dietary intake affects both physical and mental health, the ability of caregivers to identify nutrient-rich foods, and understand dietary guidelines

and recommendations is paramount (Worsley, 2002). In the context of aged care, this understanding is essential, as older adults often face unique nutritional challenges due to physiological changes, chronic conditions, and reduced dietary intake. Caregivers equipped with robust nutritional knowledge are better prepared to address the specific dietary needs of the aged. They can provide meals that balance macronutrients, such as carbohydrates, proteins, and fats to meet energy requirements while supporting muscle maintenance and overall metabolism. For instance, proteins are crucial for preserving muscle mass, which naturally declines with age, and caregivers can incorporate lean meats, legumes, and dairy into meals to meet this need (Kamp et al., 2020).

Similarly, it behoves caregivers to ensure that the aged consume adequate amounts of micronutrients like calcium and vitamin D, which are critical for bone health and the prevention of osteoporosis a common concern in ageing populations. Beyond simply knowing what nutrients are required, caregivers must also understand how ageing affects nutrient absorption and metabolism. For example, older adults may experience decreased gastric acid production, impacting the absorption of vitamins such as B12. A knowledgeable caregiver can adjust the diet to include fortified foods or supplements as needed (Milosavljevic et al., 2017). Nutritional knowledge empowers caregivers to address mental health through diet. Emerging research suggests that certain nutrients, like omega-3 fatty acids and antioxidants, can support cognitive function and reduce the risk of dementia (Clarke et al., 2021). By incorporating foods such as fatty fish, nuts, and colourful fruits and vegetables, caregivers can promote not only physical health but also cognitive well-being. In caregiving, the ability to adapt dietary practices based on an individual's health status is equally vital. For aged individuals with conditions such as diabetes, hypertension, or dysphagia, a caregiver with strong nutritional knowledge can modify meals to align with dietary restrictions and enhance

the individual's quality of life. For example, they may prepare low-sodium meals for those with high blood pressure or create textured diets for those with swallowing difficulties. Ultimately, caregivers with a profound understanding of nutritional principles are equipped to make informed dietary choices that contribute to the holistic health and well-being of the aged. Their knowledge bridges the gap between dietary intake and improved quality of life for care recipients. This concept is particularly significant in health promotion and disease prevention.

Individuals with a high level of nutritional knowledge are more likely to make informed food choices that align with their health goals, thereby reducing the risk of chronic diseases such as obesity, diabetes, cardiovascular diseases, and certain cancers (Spronk et al., 2014). For example, understanding the connection between excessive sugar intake and insulin resistance empowers individuals to limit consumption of sugary foods and beverages. In the caregiving context, nutritional knowledge is crucial for ensuring the health and well-being of dependents, such as children, the aged, or individuals with chronic illnesses. The caregivers who have adequate nutritional knowledge can design balanced diets that meet specific dietary requirements, manage food allergies or intolerances, and adapt meals to accommodate cultural or personal preferences. Moreover, they can interpret nutritional labels, understand portion sizes, and apply safe food preparation methods, all of which are essential for maintaining the health of care recipients.

The dissemination of nutritional knowledge is a public health priority. Governments and health organizations invest in educational campaigns to enhance population-level understanding of nutrition. For instance, programmes like the World Health Organization's (WHO) "5 A Day" campaign aim to increase fruit and vegetable

consumption by promoting the benefits of plant-based diets (WHO, 2020). By increasing nutritional awareness, these initiatives empower individuals to make healthier choices, ultimately contributing to better population health outcomes. With the concept of nutritional knowledge, Lewis (2002) was of the view that there is a close similarity between the biological changes of the musculoskeletal system that attributes to the process of ageing which are seen in the neglect phenomenon. The two circumstances that are attributable to ageing are correct and can be prevented. The author state that “physical exercise as well as good nutrition has been found to hold promise for sustained health.” The number of persons in need of assistance is rising quickly due to factors such as longer life expectancy and the increased prevalence of diseases among the aged (Volkert, 1993).

Nutritional knowledge most likely correlates with consumption when people have attribute-related knowledge of the food and consequence-related knowledge of how it will benefit them (Wansink, Westgren, & Cheney, 2005). It is not the amount but the type of knowledge that matters. Educational strategies based only on attribute-related knowledge of functional foods and healthy products may not effectively encourage the actual consumption of the food. Health care professionals and dietitians link food attributes with personal health consequences when communicating to their patients (Ruckenstein, 2015). One of the major determinants of dietary practices adopted among the aged is the nutritional knowledge of the caregivers (Oduro et al., 2019). There is minimal information on how nutritional knowledge level among caregivers is associated with dietary practices of the aged (Chege & Kuria, 2017). It is apparent that caregivers generally need nutritional education and assistance to meet the specific needs of the aged (Avgerinou et al., 2019). Dietitians should seize the opportunity to update

the performance of caregivers with regard to nutritional care and, ultimately, increase the quality of life for aged people (Chege & Kuria, 2017).

The educational level of caregivers plays a critical role in determining the health and well-being of the care recipients they support. Numerous studies, including those by Halder and Kejriwal (2016), highlight a direct correlation between caregiver education and the health outcomes of the individuals they care for. With higher levels of education among caregivers, they can contribute to improved health and survival rates, particularly among vulnerable populations such as the aged. This is because an educated caregiver is more likely to understand and implement appropriate health-related practices and interventions. In the context of nutrition, this relationship becomes even more pronounced. Caregivers with a solid foundation in the principles, procedures, and practices of nutrition are better equipped to make informed decisions about the dietary needs of their care recipients. Such knowledge enables them to identify the appropriate balance of nutrients required to maintain and enhance the health of those under their care.

Beyond ensuring that there is the availability of food, educated caregivers can assess the composition of nutrients, and also understand the significance of various dietary components. They may differentiate between macronutrients and micronutrients and their roles in disease prevention and overall well-being. Furthermore, the significance of caregiver education extends to addressing malnutrition—a common issue among aged populations. Proper understanding of nutritional requirements allows caregivers to design and administer diets that cater to the unique needs of care recipients, reducing the risk of conditions such as obesity, diabetes, or nutrient deficiencies. This knowledge

ensures that caregiving practices go beyond mere sustenance to encompass holistic well-being.

2.4 Nutritional Knowledge in Caregiving

In smaller towns in Ghana, the concept of nutritional knowledge in caregiving for the aged could face significant barriers. Nutritional knowledge is critical for the aged, as ageing brings about physiological changes that can lead to malnutrition, chronic diseases, and diminished cognitive function (Worsley, 2002). In smaller towns where access to formal education and healthcare services is often limited, caregivers are frequently not equipped with the necessary knowledge to meet the dietary needs of aged individuals effectively. This gap in knowledge is a significant barrier to providing adequate care and nutrition to older adults, whose health demands specialized dietary attention due to the physiological changes associated with ageing.

In these communities, caregivers are often more focused on presenting available food items for consumption, rather than understanding the specific nutritional requirements of the aged. This practice usually results in inadequate nutrition, which exacerbates existing health conditions and contributes to other related complications (Siteo et al., 2021). One of the key challenges in smaller towns is that caregivers often have limited exposure to formal nutrition education. Many caregivers rely on traditional knowledge that is passed down through generations, which, although useful in certain contexts, may not be sufficient to address the complex health needs of the aged (Obi et al., 2017). In these communities, food choices tend to be influenced by availability rather than nutritional balance. Caregivers may focus on providing staple foods like cassava, maize, or rice, which are the most accessible and affordable, but may lack the diversity of essential nutrients needed for optimal health, such as proteins, vitamins, and

minerals. This often results in a diet that is deficient in key nutrients required for the prevention of malnutrition, frailty, and chronic conditions such as hypertension and diabetes (Milosavljevic et al., 2017). The financial constraints of many aged individuals in rural areas make it difficult to adhere to specialized dietary regimens prescribed by healthcare professionals. Very few aged individuals in these areas are well-to-do, and many live in poverty, making it challenging for them to afford the foods that are necessary for managing chronic diseases or improving overall health (Obi et al., 2017).

While physicians may recommend specific diets to manage conditions such as high blood pressure, diabetes, or osteoporosis, these dietary plans are often unattainable due to the high cost of nutritious foods, medications, and supplements. This situation is compounded by the limited healthcare infrastructure in rural areas, which means that aged individuals often lack regular access to healthcare professionals who can provide guidance on dietary needs and help caregivers understand the importance of nutrition in ageing. Without access to medical advice, caregivers may struggle to navigate the complexities of dietary restrictions or health conditions that require specific nutritional interventions (Siteo et al., 2021). The lack of education on the connection between nutrition and health outcomes further hampers caregivers' ability to make informed decisions about the aged person's diet. The caregiving context in rural areas is shaped by a combination of limited access to education, healthcare, and resources. Caregivers in these areas are often more focused on meeting the immediate food needs of the aged rather than addressing their specific nutritional requirements. Given that many aged individuals in rural Ghana cannot afford the specialized dietary regimes prescribed by healthcare professionals, it is essential to develop educational programmes that enhance caregivers' nutritional knowledge. These programmes should focus on the principles of

nutrition, the importance of a balanced diet, and practical solutions for managing aged care with available resources.

Nutritional knowledge, as defined by Worsley (2002), involves understanding how dietary intake impacts health and well-being. This includes identifying nutrient-rich foods and knowing the role of macronutrients (carbohydrates, proteins, and fats) and micronutrients (vitamins and minerals) in the body's physiological processes. In the context of rural Ghana, many caregivers, particularly in less urbanized areas, may lack formal education and may rely on traditional foods and local knowledge, which can sometimes be insufficient for meeting the complex dietary needs of the aged. This limitation can lead to imbalances in the aged population's diets, contributing to malnutrition, dehydration, or exacerbation of chronic conditions like hypertension and diabetes, which are prevalent in older populations (Siteo et al., 2021).

In rural Ghana, caregivers may be unaware of the specific nutritional needs of the aged, especially in relation to micronutrients essential for bone health, cognitive function, and immune support. For example, calcium and vitamin D are vital for preventing osteoporosis and maintaining bone health, but many caregivers may not be aware of how to incorporate adequate sources of these nutrients into the aged diet (Milosavljevic et al., 2017). This lack of knowledge becomes critical as Ghana's aged population faces increasing risks related to nutrition-related diseases such as hypertension, stroke, and diabetes, which require tailored dietary approaches for management (Obi et al., 2017). The absence of formal nutritional education in caregiving impacts not only physical health but also cognitive function. Recent studies have highlighted the connection between nutrition and brain health, with nutrients such as omega-3 fatty acids and antioxidants playing a key role in preventing cognitive decline (Clarke et al., 2021). In

rural Ghana, where many caregivers might not have formal training, the knowledge to integrate these nutrients into an aged person's diet is often lacking. Caregivers may not recognize the importance of foods like fish, leafy vegetables, and nuts, which are beneficial for cognitive function, and instead may focus on traditional staples that provide minimal nutritional diversity. Complicating this issue is the fact that rural areas of Ghana often lack access to adequate healthcare facilities, which could otherwise help caregivers understand the specific dietary needs of the aged. As a result, many caregivers rely on their own limited knowledge, passed down through generations, or they may follow community norms that emphasize the use of basic, local foods without considering nutritional balance (Siteo et al., 2021).

In some rural communities, there is also a cultural tendency to prioritize basic sustenance over a nutritionally complete diet, potentially leading to insufficient intake of essential nutrients. The limited nutritional knowledge in caregiving for the aged in rural Ghana represents a significant barrier to improving the health and well-being of the aged population. Empowering caregivers with basic nutritional knowledge, particularly in rural areas, is crucial for improving aged care. This could be achieved through targeted educational programmes that address the unique nutritional needs of older adults, practical workshops on food preparation, and the promotion of locally available, nutrient-dense foods. Improving access to healthcare and community-based nutrition education could greatly enhance the capacity of caregivers to support the aged in a more holistic manner.

2.5 The Role of Nutrition in Physical Health of the Aged

Proper nutrition is essential for older adults to maintain muscle mass, prevent frailty, and reduce the risk of chronic diseases. Empirical evidence suggests that nutrient deficiencies, particularly in protein, calcium, and vitamin D, contribute significantly to physical decline in this population. One study by Gerontologists emphasize that tailored meal plans effectively improve physical health and promote independence among older adults. This highlights the importance of integrating routine nutritional assessments in the daily food intake of ageing populations (BMJ Open, 2023). The effectiveness of such interventions is contingent on overcoming barriers such as limited mobility, food insecurity, and lack of awareness about nutritional needs. Policies that enhance access to nutrient-rich foods, coupled with educational initiatives for caregivers are essential to address these gaps. Moreover, cultural sensitivity in meal planning and regular nutritional screenings can help sustain the benefits of such programmes over time.

Ryan (1998) examined the nutritional expertise of clients' caregivers which was evaluated with the help of a programme called Programme of All-inclusive Care for the Elderly (PACE). A review of the clients' medical charts was carried out in order to acquire the clients' demographic information. This review also provided the client's primary caregiver's name and contact information. In order to assess the caregiver's knowledge of nutrition and the specific nutritional care behaviours they engage in; a questionnaire was given to them. The questionnaire was filled out by seventy-eight different caregivers. Despite the fact that many of the caregivers had educations that extended beyond the high school level, the scores revealed that the caregivers' knowledge of nutrition was quite limited.

2.6 Nutritional Practices of Caregivers

The notion of care is expanded in two ways: first, the caregiver's needs in terms of time and money are taken into account, and second, the aged person's individual qualities are taken into account when determining the type of care that will be provided (Schulz & Martire, 2004).

Sarma and Byrne (2016) concluded that feeding practices that impact the nutritional status of the aged include adapting feeding to the abilities of the aged (such as offering finger foods), responsiveness of the caregiver to the aged (such as offering additional or different foods), and selection of an appropriate feeding context. Care for the psychological and social well-being of the aged involves paying close attention to their needs and showing them affection. Tabootwong and Kiwannuka, (2020) resolved that family caregivers participate in the planning and provision of care to aged (Tabootwong & Kiwannuka, 2020). It is not impossible for caregivers to experience physical, psychological, social and financial consequences of their caregiving (Thrush & Hyder, 2014). It has been revealed that during the process of caring for their loved ones, family caregivers often experience poor sleep, strain, reduction in social interactions, and insufficient income

Caregivers in the home play a crucial role in allowing elders to live independently and with dignity. Home aides or caregivers are predominantly women, particularly relatives (Monaghan-Geernaert, 2021). Elder care is a family tradition. Women's ability to care for others for a living is seen as a natural progression from the skills they have acquired throughout their lives (Stacey, 2005). Caregivers in the home often justify their work by saying that they are fulfilling a family obligation that other members of the family either cannot or will not do (Davies & Nolan, 2006). Getting paid back for these types

of services is difficult. Most caregivers are underpaid and underappreciated because society frowns upon putting a price on the emotional labour they go through (Monaghan-Geernaert, 2021). Inasmuch as global push–pull factors and the creation of a grey economy also contribute to a devaluation of these jobs (Bales, 2007), Monaghan-Geernaert, (2021) come to the assertion that, caregivers themselves are poor advocates for better pay and working conditions because they believe it commodifies a kinship-like experience. The future of caregiving may be uncertain if proper measures are not put in place to remunerate caregivers. Poor countries will suffer greatly exporting their women; rich countries will need a tremendous number of caregivers to match their demographics and women will be overwhelmed providing care for others and themselves (Kabeer & Mahmud, 2004).

2.7 Relationship between Nutritional Knowledge and Practices of Caregivers

The relationship between caregivers' nutritional knowledge and their practices is crucial for ensuring the health and well-being of older adults. Caregivers play a pivotal role in meal planning, preparation, and monitoring dietary habits, particularly when caring for older individuals who may face challenges such as malnutrition, chronic illnesses, or physical limitations. Studies indicate that higher nutritional

+knowledge among caregivers correlates with better dietary practices and outcomes for older adults. Caregivers with adequate knowledge are more likely to prepare balanced meals, adhere to dietary recommendations, and adjust diets based on specific health needs. Conversely, gaps in nutritional knowledge often lead to practices that fall short of meeting nutritional guidelines, potentially increasing risks of malnutrition and related health issues. For instance, caregivers may fail to adapt meals to align with

dietary restrictions or cultural preferences, impacting the nutritional adequacy of the diet provided (Harvard Centre for Equitable Care for Elders, 2022).

Programmes on education and training have significantly enhanced caregivers' knowledge and practices. Programmes that include practical demonstrations, cultural sensitivity, and guidelines on tailoring meals to individual health needs have proven effective. Such interventions not only improve the dietary quality of meals but also empower caregivers to manage conditions such as diabetes or cardiovascular disease through nutrition (Research Gate, 2023; Cambridge Core, 2023).

Despite these benefits, barriers such as caregiver burden, lack of resources, and time constraints can hinder the application of nutritional knowledge. Addressing these challenges through community support, accessible resources, and policy measures is essential to sustain effective caregiving practices (Harvard Centre for Equitable Care for Elders, 2022).

2.7.1 Influence of Nutritional Knowledge on Practices of Caregivers

Caregivers' nutritional knowledge plays a crucial role in ensuring that the dietary needs of older adults are adequately met. Well-informed caregivers are better able to tailor meals to address specific health conditions such as diabetes or hypertension. However, possessing knowledge alone does not always translate into optimal nutritional care. Albrecht and Devine (2022) found that financial constraints and time pressures significantly limit caregivers' ability to prepare balanced meals, highlighting the need for supportive policies to alleviate these barriers and promote consistent application of nutritional guidelines.

Educational initiatives have been shown to improve caregivers' practices. Smith and Brown (2021) conducted a longitudinal study demonstrating that caregivers who participated in nutrition workshops enhanced their meal preparation skills, adhered more closely to dietary recommendations, and developed the ability to detect early signs of malnutrition. Similarly, Hernandez and Lee (2020) emphasized that targeted education combined with systemic support strengthens caregivers' capacity to provide adequate and appropriate nutrition. Collectively, these studies underscore the importance of both knowledge and practical support in improving nutritional care for older adults.

2.7.2 Meal Timing and Regularity

Regular meal schedules, including three balanced meals and one or two snacks per day, play a vital role in maintaining health among older adults. This approach supports key physiological functions and helps manage common age-related health challenges. (National Institute on Ageing, 2022). Frequent and evenly spaced meals help stabilize blood sugar levels, which is especially important for older adults prone to insulin resistance or type 2 diabetes. Balanced meals, including complex carbohydrates and proteins, provide a sustained energy release, reducing the risk of hypoglycemia (Jones et al., 2023; National Institute on Ageing, 2022). Structured meal timing promotes better digestion by aligning with the body's natural rhythms. Regular eating schedules help maintain the gastrointestinal tract's motility and reduce the risk of conditions like constipation, which are prevalent among older adults due to slowed metabolism (EatRight.org, 2022; Academy of Nutrition and Dietetics, 2022). Older adults often experience lower energy levels due to age-related declines in metabolic rate. Consistent meal timing prevents energy dips and ensures a steady supply of nutrients to support daily activities and cognitive functions (National Institute on Ageing, 2022; Jones et

al., 2023). For individuals with chronic conditions such as diabetes, hypertension, or gastrointestinal disorders, structured meal plans are essential. Predictable meal times help in medication management, nutrient absorption, and maintaining overall health. For example, dietary patterns tailored to consistent meal schedules can significantly reduce blood pressure and glycaemic variability (Jones et al., 2023; Academy of Nutrition and Dietetics, 2022). Starting the day with a protein-rich breakfast is crucial for preventing muscle loss, a common issue among the aged (sarcopenia). High-protein foods like eggs, dairy products, or fortified soy options support muscle synthesis and overall vitality (Jones et al., 2023).

Hydration is often overlooked in older adults, partly due to a reduced sense of thirst. Adequate water intake throughout the day, particularly with meals and snacks, improves digestion and nutrient absorption. Low-sugar beverages and herbal teas are preferred over sugary drinks (Academy of Nutrition and Dietetics, 2022). Lighter evening meals are recommended to avoid discomfort during sleep. Foods that are easy to digest, such as soups, whole grains, or steamed vegetables, should be emphasized (EatRight.org, 2022). Many medications taken by older adults are more effective when consumed with or without food. Meal timing should be aligned with medication schedules as advised by healthcare providers (National Institute on Ageing, 2022). Specific conditions like hypertension or osteoporosis require tailored meal plans. Reducing sodium intake while ensuring sufficient calcium levels through timed meals enhances management of these conditions (Jones et al., 2023; EatRight.org, 2022)

2.8 Factors that Influence Caregiver Recruitment and Retention

Families or aged individuals with substantial economic means can afford well-trained and experienced caregivers, leading to higher-quality care. Conversely, those with

limited resources may rely on untrained caregivers or informal arrangements, potentially compromising care standards (Aboderin & Beard, 2015).

2.8.1 Economic Factors

The financial ability to pay competitive wages also affects caregiver retention, reducing turnover and ensuring continuity of care. The economic status of families or aged individuals plays a critical role in determining the quality of caregiving services they can access. Wealthier families or individuals can afford caregivers with adequate training and experience, ensuring a higher standard of care. Trained caregivers possess specialized knowledge in eldercare, including managing chronic conditions, providing nutritional support, and addressing the psychological needs of the aged (Aboderin & Beard, 2015). This expertise leads to improved health outcomes and overall well-being for the aged.

In contrast, economically disadvantaged families may lack the financial resources to employ skilled caregivers. As a result, they often rely on untrained caregivers or informal arrangements, such as family members without specialized training, to provide care. These arrangements, while cost-effective, may lead to suboptimal care, as caregivers may be unaware of best practices in eldercare or lack the necessary skills to handle complex medical and emotional needs. This disparity highlights the economic inequality that influences caregiving standards (Mensah & Opong, 2017). The financial ability to offer competitive wages plays a significant role in retaining caregivers. When caregivers are adequately compensated, job satisfaction and motivation tend to increase, reducing turnover rates and ensuring continuity of care. Continuity is essential, as it allows caregivers to build rapport with the aged and understand their specific needs, creating a stable and supportive care environment

(Quartey et al., 2020). Conversely, low wages often lead to high turnover rates, disrupting care routines and negatively impacting the quality of life for the aged. Caregiving roles in Ghana are often poorly remunerated, making them less attractive. Inadequate financial compensation contributes significantly to high turnover rates as caregivers seek better-paying opportunities (Narayanan et al., 2020; Afulani et al., 2021). The migration of caregivers to countries with better pay and working conditions exacerbates shortages in local caregiving roles (Narayanan et al., 2020).

2.8.2 Social Factors

Caregiving roles, particularly in African societies, are sometimes undervalued and perceived as low-status jobs. This affects morale and the willingness to enter or remain in the profession (Afulani et al., 2021). Positive relationships with colleagues, management, and clients can enhance job satisfaction, while conflicts or lack of support may lead to dissatisfaction and turnover (Narayanan et al., 2020). Limited access to quality training opportunities for caregivers reduces job preparedness and satisfaction, influencing turnover rates. Enhanced training programmes are linked to better retention (Fowler-Davis et al., 2023).

2.8.3 Environmental Factors

The physical and emotional demands of caregiving, combined with heavy workloads, often result in burnout, which is one of the leading contributors to caregiver turnover. Insufficient staff-to-client ratios further aggravate these challenges (Narayanan et al., 2020; Fowler-Davis et al., 2023). In many households, a caregiver brought in to assist an aged family member is frequently burdened with additional responsibilities. Entire households rely on the caregiver for tasks such as laundry, ironing, cooking, cleaning, and running errands, eventually treating them as domestic helpers. Poor working

conditions, including inadequate facilities and a lack of essential equipment, further diminish the appeal of caregiving roles. Urban areas, offering better infrastructure and opportunities, tend to attract caregivers, leaving rural areas underserved. This disparity in caregiver distribution exacerbates recruitment and retention difficulties in rural communities (Fowler-Davis et al., 2023; Mensah & Owusu, 2022).

2.9 Lessons Learnt from Literature

From the reviewed literature, it is evident that both professional and non-professional caregivers must possess adequate nutritional knowledge to ensure proper care. The literature highlights significant gaps in understanding the unique nutritional needs of the aged, particularly within the African context, with a specific focus on Ghana (Oduro et al., 2019; Adjei & Ampofo, 2021). Some scholars propose that data on children's nutrition may provide a reference point for aged nutrition; however, this review underscores that the nutritional requirements of older adults are distinct and cannot be equated with those of children. This distinction emphasizes the critical gap in research concerning the aged and their specific nutritional needs. Consequently, there is a pressing need for targeted studies to address these gaps, particularly in Ghana. This research aims to bridge this gap by examining how caregivers' nutritional knowledge influences their practices in three communities in the Volta Region of Ghana.

2.10 Summary

Understanding the study through the perspective of the caregiver may facilitate the academics and practitioners in keeping the relationship stronger between the aged and their caregivers. This chapter reviewed the literature on theoretical, conceptual and empirical issues relating to the influence of nutritional knowledge of caregivers on their nutritional practices for the aged. The lessons learnt and important issues informed the

conceptual framework of the study. The review will further prove beneficial in the research methods section, analyses and presentation of findings as well as the discussions, conclusions and recommendations.



CHAPTER THREE

METHODOLOGY

3.1 Overview

This chapter presents the methodology employed in investigating the problem of nutritional knowledge of caregivers and its influence on their nutritional practices as they provide care for the aged in North Dayi District. It describes the philosophical view underpinning the study and explains the research design, research approach, the study area, the population, In addition, the chapter describes the study area, the population for the study, explains how the sampling techniques were employed to select a sample for the study. Also, this chapter presents the mode of data collection, explains how data was presented, and interpreted, and how ethical considerations was employed in the study.

3.2 Research Design

Research design refers to the plan or structure of a study that guides the collection and analysis of data. It includes decisions about the research questions, data collection methods, data analysis techniques, and sample selection, among other aspects of the study (Creswell, 2014). It is a crucial aspect of any research study as it provides a systematic framework that guides the entire research process from start to finish. It serves as a roadmap for researchers, ensuring that their study is well-organized, methodologically sound, and capable of producing reliable and valid results. Bryman and Bell (2019) explain research design to be the structure that enables the researcher to answer the research question (s) posed, test the hypothesis formulated, and generally achieve the research objectives.

A research design typically includes the selection of a sample or population, the data collection methods to be used, and the procedures for analysing the data. The Influence of Caregivers Nutritional Knowledge on their Nutritional Practices for the Aged in the North Dayi District of the Volta Region' was conducted using the case study design. This investigation aimed to understand and explore the nutritional knowledge of caregivers of the aged in the North Dayi District of the Volta Region of Ghana, assess the nutritional practices of caregivers for the aged in the district, explore whether the nutritional knowledge of the caregivers influence their nutritional practices in meeting the nutritional needs of the aged they care for in the North Dayi District, and explore factors influencing the nutritional practices of the caregivers of the aged in the North Dayi District.

Case study is a research methodology that involves in-depth exploration and detailed analysis of individuals, group, event, or organization within its real-life context (Yin, 2018) sources by employing various data collection techniques (Creswell, 2013). According to Yin (2018), case study design is particularly useful when the research questions require an in-depth examination of a contemporary phenomenon within its natural context, and when the boundaries between the context and the phenomenon being studied are not clearly evident. This design also allows researchers to gain a holistic understanding of complex and context-bound issues (Creswell, 2013). The findings of a case study are typically presented in a narrative format, which allows for the exploration of multiple perspectives and the identification of patterns and themes within the data (Creswell, 2013).

This flexibility enables researchers to explore complex phenomena, processes, and relationships within their specific context and to generate detailed and contextually rich data. In terms of data collection methods, case studies offer a wide range of options to gather information from multiple sources. The flexibility in data collection methods allows researchers to use various sources of evidence to capture different perspectives, enhance data validity, and provide a comprehensive understanding of the case ((Jones, 2020).

3.3 Research Approach

The study involved qualitatively collecting data using in-depth interviews with the aged and the caregivers on the 4 main research questions. A research approach refers to the systematic and structured process that researchers use to conduct their investigations. It involves a set of methods, techniques, and procedures for collecting, analyzing, and interpreting data to answer research questions or test hypotheses. One type of a research approaches is the qualitative research approach, which is used to explore and understand complex social phenomena.

According to Creswell (2014), the qualitative research approach is “an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem” (Creswell, 2014). This approach emphasizes understanding social phenomena through in-depth exploration and interpretation of subjective experiences, meanings, and perspectives. It involves collecting non-numerical data such as interviews, observations, or textual analysis (Creswell & Plano Clark 2018). The study explored the nutritional knowledge of caregivers who were providing care for the aged to find out whether their nutritional knowledge influenced their caregiving

practices. In a study of this nature, there is the need to determine the philosophy underpinning the study.

3.4 The Study Area

North Dayi District is the setting for this study. The district was established by Legislative Instrument (LI) 2076 of 2012 as one of the newly created districts in the Volta Region of Ghana and Anfoega; one of the traditional communities was chosen as the district capital. The district was inaugurated on Thursday, 28th June, 2012. According to the 2021 Population and Housing Census (Ghana Statistical Service, 2021), North Dayi covers an area of 461 square kilometres, with a population of 39,268 and a population density of 85.2. The population of males stood at 19,073 constituting 48.6 percent, while females number 20,193 constituting the remaining 51.4 percent. The population of the district constitutes 1.9 percent of the regional population and is dominantly rural (100%). The average household size in North Dayi District is 3.0 as against the regional household size of 3.3 (PHC, 2021), indicating that household sizes are smaller in the district. Population of the aged 65 years and above in North Dayi District stood at 3,945 (PHC, 2021).

Base on the scalogram prepared by the District Assembly (appendix A), the three top communities namely Wusuta, Vakpo and Anfoega were selected for the study based on convenience and ethnological study that says that most older adults from these towns return to spend their later adult years there upon retirement from active service. The economy of the district is fundamentally agricultural complimented by kaolin mining. With this limited avenue for income earning, it is believed that caregiving; especially caregiving for the aged with remuneration would look attractive for some people in the communities in the district, but the expectation is that people who are giving care to the

aged should have some information about nutrition for the aged to support their nutritional practices.

3.5 Population

Population for a study is a collection of all possible humans, animals, objects, or measurement that have one or more characteristics in common that are of interest to a researcher (Creswell 2014). Population is the total number of people at a particular place within a stipulated period of time (Babbie, 2021). According to Babbie, population is the collection of people that the researcher is interested in gathering data about which eventually provides basis for analysis. The population for the study included the aged age sixty-five years and above and their caregivers residing in the Volta Region of Ghana. The accessible population comprise the aged sixty-five years and above in the North Dayi district and the target population involved the aged sixty-five years and above and caregivers in three selected communities in the North Dayi District namely Anfoega, Vakpo, and Wusuta. The population for this study is human beings (the aged and their caregivers) with the aged as locus aiding the identification of caregivers whose nutritional knowledge was explored to determine whether their nutritional knowledge influenced their nutritional practices in providing care for the aged.

3.6 Sample and Sampling Techniques

The sample for the study were selected using purposive, convenience and snowballing sampling procedures. The purposive sampling technique was used to purposively select the three communities (Vakpo, Wusuta and Anfoega) for the study because the scologram report of the district indicated these communities are the communities that are endowed with facilities and amenities such as health, and education that are relevant

in supporting caregiving activities; especially when providing for the aged. Cleave (2023) indicates that convenience sampling also referred to as opportunity sampling is a non-probability sampling technique that focuses on getting information from the most convenient and accessible participant. Also, the purposive sampling method was used to purposively select the three (3) major towns in the district namely Anfoega, Wusuta and Vakpo having observed that most aged people return to these communities after retiring from active service. Also, being the major towns in the district, they have facilities and amenities that support care of the aged. Thus, the aged people who fall within the specified age bracket (65 years and above) and did not have caregivers taking care of them were excluded from the study. The snowball sampling technique was employed to help identify the aged who had caregivers caring for them irrespective of whether the caregivers were relatives or not. This was because there was no reliable database that had information on the aged and caregivers in the district. It was deemed appropriate to rely on informants to identify as many aged persons and caregivers as possible for the purpose of data collection. According to Nikolopoulou (2023), snowballing, a non-probability sampling method which is also known as chain or network sampling is suitable for identifying respondents that are not easily identifiable and have no known and workable or location for the purpose of contacting and interacting for the purpose of data collection.

The sample size for the research was fifty (50) caregivers, and fifty (50) aged people from Anfoega, Vakpo and Wusuta township in the North Dayi District of the Volta Region. Sixteen (16) caregivers and sixteen (16) aged persons were selected from Vakpo and Wusuta township each and the remaining eighteen (18) caregivers and eighteen (18) aged people were selected from Anfoega township to get a total sample size of one hundred (100).

3.7 Data Collection instrument and Procedures

Data collection procedures refer to the systematic methods and techniques researchers use in analysing data for the purpose of making research decisions (Bowen, 2009). Data was collected through in-depth interviews. The main advantage of a primary interview is its ability to provide more detailed evidence than what is accessible through other data collection methods such as surveys (Boyce & Neale, 2006). The interview was conducted with the aged and the caregivers in their homes after seeking their prior consent and a date and time was arranged for the interview. As stated earlier, the interview was facilitated using an interview guide with predetermined set of open-ended questions based on the objectives of the study. With the permission of the respondents, the interview was recorded using a voice recorder application on the researcher's mobile phone. On average, each interview lasted 20 minutes. This recording was later transcribed and qualitatively analysed. For the sake of clarity, the interview guide was divided into three sections.

Section A captured the demographic characteristics of the respondents. Section B bordered on items on nutritional knowledge of caregivers for the aged. Section C explored issues of nutritional practices of caregivers for the aged. The interview method was adopted because according to Seidman (2012), in-depth interview is an effective data collection tool employed in qualitative research to obtain detailed information from research participants about their understanding, experiences, views and beliefs about a phenomenon under study.

3.8 Validity and Reliability of Research Instruments

Validity and reliability are two very important considerations that must be given critical attention when developing a research instrument for the first time. While validity has

to do with the extent to which an instrument measures what it is really designed to measure (Robson, 2011), on the other hand, reliability has to do with how consistent the instrument is, in terms of producing the same or similar results upon repeated trials (Saunders et al., 2012). This concept is critical in assessing the trustworthiness of research findings, as a reliable instrument ensures that the results are not merely due to random chance or situational variables but rather reflect the phenomenon being measured. High reliability is essential for research validity, as it supports the idea that the instrument consistently captures the intended data.

To establish the reliability of the interview guide, a draft was pretested using 5 caregivers and 5 aged from Vakpo who were not included in the study. This was in accordance with Creswell and Creswell (2023) who suggested that a pilot sample size of 10% - 20% of the actual study sample size is an acceptable number of participants to consider in a pilot. Insights gained during the pilot phase often closely align with findings from the main study, as pre-testing allows researchers to identify potential issues, adjust questions, and ensure participant understanding, leading to more consistent and reliable data collection (Flick, 2022). The experience with the participants of the pilot study prepared the researcher for the main study. The thoughts expressed during the pre-test era were not much different from the main research.

3.9 Data Analysis

The collected data was transcribed verbatim and analysed using thematic analysis. The transcripts were coded and categorized into themes and sub-themes based on the research questions and objectives. The analysis involved identifying patterns, trends, and commonalities in the data to gain insights into the nutritional knowledge of caregivers and nutritional practices that affects the aged. Thematic analysis is a widely

used qualitative research method that allows for the systematic identification and organization of themes within a dataset (Braun & Clarke, 2006). The primary action to take in the thematic analysis process involves familiarizing oneself with the data by reading and re-reading the transcripts to gain a comprehensive understanding of the content. This allows the researcher to become familiar with the participants' responses and identify potential themes that emerge from the data (Braun & Clarke, 2006). After becoming acquainted with the data, by reading and re-reading the transcripts to gain a comprehensive understanding of the content, the researcher followed up with the coding of the transcripts.

Coding involves systematically labelling and categorizing sections of the text that relate to specific ideas, concepts, or patterns (Braun & Clarke, 2006). The researcher gave codes to each of the issues raised. Themes which reflected the research questions and objectives were derived and grouped from the transcripts. These themes were reviewed to ensure that they were accurate and appropriate. The themes were grouped and given overarching names for the report (as can be found in chapter four) in an orderly manner. The data was then organised into four themes to reflect the research objectives and questions. These were: the nutritional knowledge of caregivers of the aged in the North Dayi District of the Volta Region of Ghana, the nutritional practices of caregivers for the aged in the district, whether the nutritional knowledge of the caregivers influence their nutritional practices in meeting the nutritional needs of the aged they care for, and factors influencing the nutritional practices of the caregivers of the aged in the North Dayi District. The data was presented qualitatively in the form of descriptions and narrations with the use of quotations from participants. These were then discussed in the light of the reviewed empirical studies and underlying theories.

3.10 Ethical Considerations

Creswell (2013) opines that throughout the entire research process, the researcher is expected to engage in ethical behaviours and practices towards research participants, organizations used in the study, the researcher's own institution's ethical standards, and general research ethical standards. Therefore, guided by the general guidelines for preparation of thesis issued by University of Education, Winneba, and the knowledge of general ethical considerations guiding research that use human beings as participants or subject of study, the researcher took into consideration issues relating to informed consent, the anonymity of respondents, and confidentiality of information. The concept of informed consent is fundamental in research ethics, underscoring the need for researchers to thoroughly inform participants about the study's purpose, procedures, and their role within it. Participants must be made aware of their rights, including voluntary participation and the freedom to withdraw at any point without penalty, as well as assurances regarding their safety and protection from any physical or emotional risks (Babbie, 2021).

Informed consent not only respects participant autonomy but also fosters trust between the researcher and participants, which is essential for ethical and credible research (Bell & Bryman, 2022). The principle of anonymity of research participants that must always be upheld throughout the data collection and analysis process, the identity of the research participants was thus disguised or kept secret (Creswell, 2014). Saunders et al. (2012) contend that confidentiality of information provided by research participants should be maintained by ensuring that the information provided, or data collected is used only for its intended purpose and should not under any circumstance be divulged to a third party or used for other purposes without the prior approval of the participants who provided such information.

Therefore, at the start of the data collection process, the researcher took serious cognizance of the three key ethical issues - informed consent, anonymity, and confidentiality. Consent and approval of the respondents was sought before the field data collection. First, the researcher visited all the prospective respondents and explained to them of the purpose of the study and the reasons why they were selected as participants in the study. She sought their consent to act as respondents, and those who agreed to participate in the study were noted. A date and time were set by both the researcher and each of the respondents who gave their consent for the interview.

On the issue of maintaining the anonymity of the respondents, numbers were assigned to the respondents instead of the names in order not to reveal their identity. This was to ensure that respondents were free to express their views and opinions on the issues being discussed in the interview since they were assured that their identity remained anonymous.

In terms of confidentiality of the information provided by the respondents, the researcher explained to the respondents of the interview that the information would be used for academic purposes only and would not be revealed to a third party. With these assurances, all the respondents were convinced that the confidentiality of the information they provided was maintained and freely did volunteer the information. Findings were presented in a manner that was truthful and accurate, avoiding any manipulation of data to fit preconceived notions. Again, authorities that were cited in this research were duly acknowledged in order to avoid issues of plagiarism.

3.11 Chapter Summary

This chapter presented the research methods used in the study. It described case study which was the research design used. The research approach was qualitative approach, the population, and study area – North Dayi District of the Volta Region, the sampling and sampling techniques, data collection instrument, and procedure, data analysis, as well as ethical considerations. This chapter ended with the summary of the chapter. Results and Discussion of Findings will be done in the chapter four.



CHAPTER FOUR

RESULTS AND DISCUSSION OF FINDINGS

4.0 Overview

This chapter focuses on results and discussion of findings. The purpose of the study was to find out the nutritional knowledge of caregivers and how it influenced their nutritional practices in providing care for the aged in North Dayi District of the Volta Region of Ghana. The results and discussion of findings were done in relation to the research objectives which sought to:

1. examine the nutritional knowledge of caregivers of the aged in the North Dayi District of the Volta Region of Ghana
2. assess the nutritional practices of caregivers of the aged in the North Dayi District.
3. investigate the influence of caregivers' nutritional knowledge on their practices in the care of the aged in the North Dayi District.
4. explore factors influencing the nutritional practices of the caregivers of the aged in the North Dayi District.

The results and discussions were organized into five (5) sections. Section one presented background information of the respondents; section two, three, four and five covered the results and discussion of responses gathered in relation to the four research questions that guided the study. While collecting the data to answer the four research questions that guided the study, the demographic data were analysed first.

4.1 Demographic Characteristics of Respondents

The study relied on a sample of 50 caregivers and 50 aged people selected from three towns namely Anfoega, Vakpo and Wusuta all in the North Dayi District of the Volta Region. The demographic characteristics focused on: number of respondents from the

three communities, gender, age, marital status, level of education, of both the aged and the caregivers and whether the caregivers were related in any way to the aged they were caring for, whether they were hired hands or not and whether they were receiving any form of remuneration. The first variable that was assessed was the number of respondents from the three towns and was presented in Table 4.1.

Table 4.1: Community distribution of respondents

Community	Aged		Caregivers	
	No.	%	No.	%
Anfoega	18	36	18	36
Vakpo	16	32	16	32
Wusuta	16	32	16	32
Total	50	100	50	100

Source: Field Data (2022)

Community distribution of respondents

Data presented in Table 4.1 indicates that a higher number of the respondents 64% came from Vakpo and Wusuta while Anfoega had (36%), although Anfoega is considered a bigger town than the rest. The information gathered is based on reaching saturation points for each of the selected towns. Shetty (2024) indicates that for in-depth qualitative studies that seek in-depth information, 20-30 sample size is ideal. For the three communities selected, the sample size was above the acceptable minimum.

A variable that was also assessed under demographic characteristics was gender. Gender of both the aged and the caregivers was assessed because it was assumed that caregiving in the family setting is usually done by females but in some cases, males are engaged. The results were presented in Table 4.2

Table 4.2: Gender of the Aged and the Caregivers

Gender	Aged		Caregivers	
	No.	%	No.	%
Male	28	56.0	4	8.0
Female	22	44.0	46	92.0
Total	50	100	50	100

Source: Field Data (2022)

Table 4.2 shows the gender distribution of both caregivers and the aged who participated in the study. For caregivers, the gender distribution of the respondents shows that out of the 50 respondents, 92% (46) were females with just 8% being (4) males. The information presented in the table was in line with the assumption that females perform the role of care givers more than men. This social ideology is confirmed by Mestre, Samper, Frías and Tur, (2009) who indicates that female caregivers are better home keepers, good cooks and more empathetic than men and therefore are in a better position to meet the needs of the elderly including their nutritional needs. The significant number of female caregivers may also be because, in addition to caring for the dietary needs of the elderly, caregivers are expected to take care of other needs, such as changing and washing of clothes and beddings, and bathing the elderly when they are unable to do so on their own. These and some other responsibilities usually carried out by females due to their childhood domestic training and upbringing (Dwyer & Coward, 2020), when compared to their male counterparts.

The gender distribution of the aged, who participated in the study shows that 56% of them were males whereas 44% were females. The large number of aged men who were receiving caregiving as compared to aged women can be attributed to the fact that unlike aged women who can attend to their feeding needs when they are in good state of health or physical conditions; their male counterparts tend to depend on caregivers

who are mainly women to provide care including feeding. For instance, older women who are in good health and are physically fit can care for themselves while older men tend to rely on women to carry out domestic chores for them.

Another demographic variable that was assessed was the ages of the caregivers and that of the aged they were caring for. This was against the belief that aged people require care when they are too old to carry out daily activities on their own or have health challenges that make it almost impossible to do so. Also, it was thought that caregivers who are adults are better care-providers than children. The related data gathered are presented in Table 4.3

Information on Table 4.3 indicates that (6%) of the caregivers were below 25 years, 32% were within the age range of 25 and 34 years, 52% of the caregivers were between the ages 35 and 44 years, 10% were in the age bracket of 45 and 54 years. It can be deduced from the age distribution of the caregivers that most of the caregivers were adults who were mature enough to know and understand the feeding and other domestic needs of the aged (Kyei-Arthur, 2017). Some of them were also nearing the age where they would be referred to as aged especially those within 45-54 years.

Table 4.3: Age distribution of the Aged and the caregivers

Age range	Aged		Caregivers	
	No.	%	No.	%
Below 25 years	00	00	3	6
25-34	00	00	16	32
35-44	00	00	26	52
45-54	00	00	5	10
55-64	4	8	00	00
65-74	5	10	00	00
75-84	21	42	00	00
85-94	16	32	00	00
Above 95 years	4	8	00	00
Total	50	100	50	100

Source: Field Data (2022)

Again, it is assumed that adults within the ages of 25 and above may have experiences needed to meet the challenges and behavioural changes associated with old age and so can understand and tolerate some of the behaviours of the aged better than young people and also provide them with meals of adequate nutrition.

The inclusion criterion of the study for the aged was 60 years and above. It emerged from the data that 92% of the aged interviewees fell within 65 years and above, with only 8% being between 55 and 64 years. A closer look at the ages of the aged respondents in the 55-64 age bracket also indicated that they also were in this age bracket 60 and 64 years and not below. However, it is worth noting that 4 of the aged were above 95 years, a stage in life when such people need critical care especially in terms of nutrition.

In another development, the marital status of the respondents was investigated, and the responses presented in Table 4.4. With regards to the marital status of the caregivers, the study revealed that more than half of them, representing 54%, were married. Further probing indicated that caregivers who said they were married were either taking care of their aged parents or aged in-laws as part of their domestic marital duties. Thirty-two percent of the caregivers indicated they were single and included those who were not old enough to get married and those who were preparing to marry, while 14% were divorced. Out of the 16 (32%) respondents who were single and were caregivers, 9 (18%) were the children and relatives of the aged they were taking care of. The remaining 14% were hired as caregivers to attend to the domestic needs of the aged.

Table 4.4: Marital status of the Aged and the Caregivers

Marital Status	Aged		Caregivers	
	No.	%	No.	%
Single	04	08	16	32
Married	19	38	27	54
Divorced	06	12	07	14
Separated	00	00	00	00
Widowed	21	42	00	00
Total	50	100	50	100

Source: Field Data (2022)

In relation to the marital status of the aged, the results showed that 54% were either divorced or widowed and included both males and females. However, the males were more than females. This collaborates the results on the gender distribution of the aged which showed that a majority, that is (56%) of the aged were males; implying that they will need other people to take care of their needs. It should be noted that the settings for the study are communities where traditions are upheld strongly and that it is

inappropriate and against tradition for aged persons especially men to be undertaking domestic activities. The thirty-eight percent of the aged who indicated they were married; were mainly women who were still living with their spouses, and needed assistance to attend to their domestic needs and therefore needed the assistance of caregivers.

Educational background of the caregivers was also assessed as a prelude to finding out whether they had knowledge about nutrition that could influence their nutritional practices. The outcome of the processing of data in that regard is presented in Table 4.5.

Information presented on Table 4.5 indicates that more than half of the caregivers representing 56% had basic education, 24% of them never had any form of formal education, 14 % had attained either secondary or vocational/Technical education and 6% had attained tertiary education.

Table 4.5: Educational background of Caregivers

Educational Level	No.	%
No formal education	12	24
Basic education	28	56
Secondary/Vocational/Technical Education	7	14
Tertiary education	3	6
Total	50	100

Source: Field Data (2022)

The seemingly low educational background of the caregivers may not reflect the educational situation of the citizenry in the selected communities but could be attributed to the fact that people would prefer to hire less-educated unemployed people to care for their elderly relatives. Also, family members who are less educated and have no

employment are those who are engaged to cater for the aged. Hence, the large number of uneducated or low educated caregivers in the setting of the study.

The study sought to find out whether the caregivers were remunerated for the caregiving services they were rendering to the aged. Thirty-eight percent of the respondents indicated that they do not receive wages or salaries because they are related to the aged persons they were caring for but receive monies for meeting the needs of the aged and their own needs, however, they receive gifts of all kinds. Table 4.6 illustrates the remuneration conditions of the caregivers.

Table 4.6: Remuneration of Caregivers

Remuneration	No.	%
No Salary	21	42
Receive Salary	29	58
Total	50	100

Source: Field Data (2022)

From the Table 4.6, it was realised that 21 caregivers representing 42% of them were not taking salaries. The remaining 58% agreed that they receive monies agreed upon to be paid on monthly basis as salary. In summary, it could be deduced from the demographic information that caregivers were mainly locals and relatives providing care for the aged in the family setting. It can be seen that just a little over half of the caregiver population takes salaries. Underemployment appears to be on the high side in the North Dayi District of the Volta Region as far as caregiving is concerned. The bio-data presented gives credence to the research questions that guide the study and are discussed as follows.

The study was guided by four (4) research questions generated from objectives set for the study and results and discussions of findings were done in relation to the research questions and themes that emerged from the research questions.

The first research question (RQ1) that guided the study was stated as follows:

4.2 RQ 1: what nutritional knowledge do the caregivers of the aged in the North Dayi District of the Volta Region of Ghana have?

The importance of nutritional knowledge in caregiving and for that matter caring for the aged cannot be overemphasized. Thus, this question sought to find out whether the caregivers had nutritional information that could influence their nutritional practices in providing care for the aged. This was against the background that some of the aged require special nutrition. Themes under which the discussion was organized included:

1. Training or education for aged caregiving.
2. Exposure in caring for the aged.
3. Ideas about aged nutrition.
4. Food safety practices

4.2.1 Training or education for aged caregiving

The caregiver respondents were asked whether they had had any formal training or education that prepared them for the work they were doing. To this, 94% of the respondents said they had not had any formal education or training in relation to caring for the aged and their nutrition. However, 6% said that they studied Home Economics at the Secondary School, and therefore, have basic information about aged nutrition.

4.2.2 Exposure in caring for the aged

As to whether they had had any exposure in caring for the aged; 31 of the caregivers representing 62% indicated that they have lived with other caregivers and aged people

and they have learned from practice, observation and assisting those caregivers. Thirty-eight percent of the respondents said that they are experienced caregivers and have been caring for the aged and invalids for some time now. It is the work they do for a living and are conversant with the dishes that are suitable for the aged. Only 7% said it was their first time of caring for the aged and therefore are now gathering information and experience about aged nutrition.

4.2.3 Ideas about aged nutrition

The caregivers were asked whether they have any ideas about aged nutrition and the following were some of the responses that were given.

Generally, the aged are expected to be given soft food and therefore dishes prepared for them should be soft or tender. This is because some of them have lost their teeth and therefore cannot chew well.

Soups, porridges and beverages or semi-solid foods are suitable for them because some have weak teeth and gums, others find it difficult to swallow semi-solid foods. Also, some of them have weak digestive systems and therefore cannot manage hard solid foods.

The health status of the aged influence what they eat and therefore determine dishes that could be prepared for them. For example, recently the one I am caring for was asked not to eat goat or cow meat because it will take a long time to digest and therefore when we use meat to prepare food I have to prepare a fish dish for him.

Some of them behave like children. If you give them a particular food to eat today and give the same food another day, they will find fault with it or refuse to eat completely. As for the one I am caring for, she will scream or shout at you to come for the food if you repeat a dish or meal and she does not like it.

What I am going to say is from experience. I know that the aged should not eat late. At least by six o'clock in the evening, they should have finished eating for the day, they should not eat after 6.00pm

These responses are indications that the caregivers; although some of them are not formally educated, have a fair knowledge about aged nutrition.

4.2.4 Food safety practices

The caregivers were asked to indicate some of the food safety practices they were aware of and are required in preparation and serving of food for the aged. Some of the respondents had this to say:

It is difficult to eat cold food, so I try as much as possible to cook and serve hot or warm food. Moreover, it is said that cold food can harbour germs and bacteria which may be harmful to the body. With the aged, their bodies are already weak so the least mistake can cause their death.

Preparing and serving food in a hygienic environment is important because it promotes good health. As such, I try as much as possible to keep my environment clean, especially my cooking area and the cooking equipment I use in preparing and serving food for the one I am caring for.

cockroaches, wall geckoes and mice are disease causing animals. It is therefore important to prevent them from visiting places such as the kitchen to contaminate food. I therefore try as much as possible not to attract them by keeping the kitchen neat.

I do my cooking outside, so I try as much as possible to cover whatever I am cooking, or I am using to cook to prevent dust and flies from settling on the food to contaminate it.

These responses indicates that the caregivers were aware of food safety issues as far as the aged were concerned and did their best to maintain hygienic standards.

4.2.5 Summary on Research Question 1

The research question sought to find out whether caregivers have nutritional knowledge. To this, it was revealed that majority of the caregivers have not had the privilege of nutritional education, yet they are able to go about their caregiving chores without much difficulty. On the question of caring for the aged, it was realised that majority of the respondents have had experiences with caring for the aged and so it was 'business as usual'. Only a small percentage were first-timers, and even they were learning very fast. It was also clear that caregivers have fair knowledge on nutrition for

the aged. Caregivers did their best to maintain food safety standards to prevent the food for the aged from getting contaminated.

Assessment of the nutritional practices of caregivers for the aged was looked at in RQ2.

4.3 RQ 2: What nutritional practices do caregivers for the aged in the North Dayi District employ in providing care for the aged?

This question sought to find out the nutritional practices the caregiver respondents employ in meeting the nutritional needs of the aged they care for. Specifically, it was to find out whether the caregivers follow nutritional principles and methods that ensure good nutrition for the aged. In relation to this, the study sought to find out: How many times the aged were fed in a day; Specific times they are fed in a day; Whether special dishes are prepared for the aged; Factors they consider when preparing meals for the aged; Ingredients they usually use in preparing dishes for the aged, whether meals are prepared on daily basis. And food safety practices they employ. Themes under which the analysis and discussion were done included:

1. Daily feeding times
2. Specific feeding times
3. Considerations for meal preparation
4. Knowledge about aged nutrition
5. Food safety practices

4.3.1 Daily feeding times

The information gathered in relation to daily feeding times was to find out how regular the aged were fed by their caregivers. The responses are presented in Fig. 1.

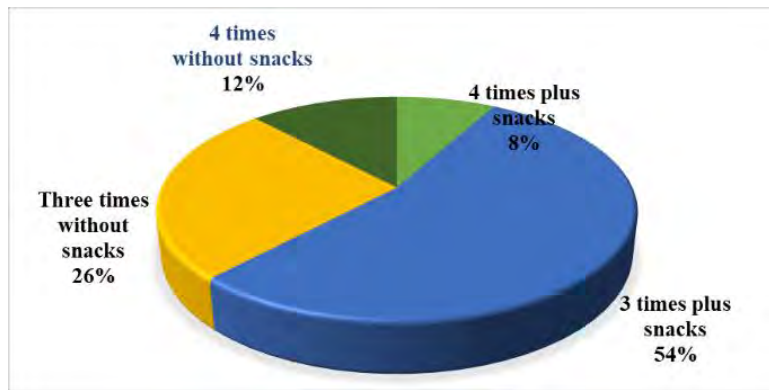


Figure 2: Number of times that the aged are fed.

Source: Field data, 2022

Data presented in Figure 2 indicates that more than half of the aged (54%) were fed three times a day plus snack, 26% were fed three times a day without snack, 12% were fed four times a day without snack and 8% were four times a day and with snack. Probing further, it came to light that some of the aged were given snacks in between meals. It also came out that 38% of the caregivers did not know what snacks were and were considering them as main meals. This accounts for those of the caregivers who said they were feeding the aged four times a day.

4.3.2 Specific feeding times

The question above was followed by the specific times meals were served the aged and the responses are presented as follows in Table 4.6. Information presented on Table 4.6 indicates that 86% of the aged were served breakfast between 6:30 and 8:30 in the morning and only 14% were served breakfast when it was convenient. That meant that they did not have an actual time of eating, but they are served by ten O'clock in the morning.

Table 4.7: Times that meals were served the aged

Breakfast			Lunch			Supper		
Feeding time	No.	%	Feeding time	No.	%	Feeding time	No.	%
Early morning 6.30–7.30 am	10	20	Early afternoon 12.00–12.59pm	12	24	Early evening 4.30-5.30pm	16	32
Mid-morning 7.30 – 8.30 am	18	36	Mid-afternoon 1.00 – 1.59pm	26	52	Mid evening 5.30-6.30pm	18	36
Late morning 8.30 -9.30am	15	30	Late afternoon 2.00-2.59pm	5	10	Late evening 6.30-7.30pm	9	18
When convenient	7	14	When convenient	7	14	When convenient	7	14
Total	50	100		50	100		50	100

Source: Field Data, 2022

From the Table 4.7 it could be found that breakfast for the aged was served between 6:30 a.m. and 9:30 a.m. with the majority occurring between 7:30a.m. to 8:30 a.m. The average time for serving their lunch was between 1:00p.m to 1:59p.m. while the average time for supper was between 5:30p.m. to 6:30p.m.

Also, considering meal preparations, the respondents were asked to provide information as to the factors that influence their choice of what to prepare for the aged. Their responses were as follows:

I am told to make sure his food is balanced. Therefore, I ensure that the food is made up of carbohydrates, proteins, and some vegetables. I sometimes give him fruits for snacks. But as to the proportions of vitamins, minerals and others, I have no idea about that.

I do not have to consider anything; we all eat the same food prepared for the whole family except when he/she is sick or wants something special to be prepared. In such situations, sometimes the whole family will eat what she/he has asked for.

She is on a special diet regime and that determines what to prepare. Thus, most of the time, what she eats is slightly different from what the family eats. She eats less carbohydrate but also does not like to chew any leaves as vegetables, so green soups with fish are her favourite.

The person I am taking care of has problem with chewing and swallowing so, all the food to be given him should be in the liquid form

and should be smooth so after cooking, everything is blended before serving.

I follow instructions given me by his children, they have given a menu I have to follow, and they provide the things I need for preparing meals. As such whenever there is need for a change, or our supplies are getting finished, I inform them.

He tells me what to prepare all the time, so what he wants to eat is what I prepare. When what he wants to eat is different from what the family is to eat, then there is the need to prepare his special request.

Most often, money and time available determine what is prepared for her. However, because of her age and health conditions normally I try to prepare what she can eat especially those that doctors say she should eat.

4.3.3 Food safety practices

The caregivers were asked to indicate the food safety measures they employ to keep food safe for the aged. Some of the respondents had this to say.

I cook daily especially when it comes to stews and soups because I know that some people; especially the aged when they eat reheated dishes, they experience running stomach which can affect their health. So, it is better to prepare fresh meals for them.

Others also said:

My madam is a retired nurse and would come to the kitchen to check for cleanliness. She would open the fridge to check whether raw foodstuff or meat had not been stored with cooked foods. She is always educating me to avoid what is called cross contamination. I wash my hands thoroughly before and after handling food. Interestingly, I have learnt from her that it is best to wash my hands with soap and water after handling raw meat before handling other foodstuffs.

We do not have a fridge for storage of food, so I cook on daily basis. This is mainly to ensure that food served to the lady is fresh and warm. With the oldies if you are not careful you may encounter some health problems.

In another development some other respondents had this to say:

The old man is a on special diet, so I prepare his dishes especially soups and stews separately and store in the fridge until they are finished. It is only the accompaniments such as banku, yam, akple, rice etc. that I cook on daily basis.

My old man does not mind if the food served to him is a reheated dish, but it should be served very warm.

I ensure that his bowls are very clean before serving his dishes in it. Although the bowl may look clean, I rewash with soap and clean water. I also ensure his dining table surfaces are spotlessly clean to prevent any form of germs. As a retired soldier, the first thing he does when he sits at table is to ran his left hand on the surface to check for dirt.

The responses to Research Question Two indicated that while many caregivers lack formal education, they often develop effective food handling strategies, including maintaining appropriate food storage temperatures, practicing hand hygiene during meal preparation, and implementing thorough cleaning methods for kitchen surfaces. These strategies are largely self-taught or stem from anecdotal experiences (Smith & Jones, 2021). The reliance on self-education and traditional knowledge reflects broader trends in health and hygiene practices within caregiving settings, particularly in communities with limited access to formal food safety training (O'Brien, 2020). Sometimes, the experiences or expertise of the aged receiving the care also help check the behaviour of the caregivers. Research reveals that food storage at appropriate temperatures, particularly for perishable items, is essential for preventing foodborne illnesses a principle that these caregivers reportedly observe despite not having much of formal education (Martin et al., 2019). Studies suggest that caregivers often prioritize practices such as washing hands and surfaces as routine elements of food safety, based on personal experience or culturally inherited wisdom (Gibson, 2018). Furthermore, the significance of hygiene, such as handwashing and cleaning kitchen surfaces, is well-documented in promoting safety within caregiving environments, where food safety is paramount for vulnerable populations like children and the elderly (Brown et al., 2019). While anecdotal evidence may lack scientific rigor, it plays a considerable role in shaping caregivers' approaches to food safety. This self-taught knowledge base often

fills the gaps left by limited formal education, underscoring the adaptability and resilience of caregivers in ensuring food safety (Johnson, 2022).

4.3.4 Summary of Research Question 2

This question assesses the nutritional practices of caregivers for the aged in Anfoega, Vakpo, and Wusuta communities of the North Dayi District. It is clear that most caregivers have gone through experiences that had exposed them to effective caregiving practices, sometimes with the help and vigilance of the aged receiving the care.

4.4 RQ 3: What influence does nutritional knowledge of caregivers have on their practices in providing care for the aged?

This question sought to gather information as to whether the nutritional knowledge of the caregivers influenced their nutritional practices. Information was collected on:

- Cleanliness
 - Kitchen hygiene practices
 - Personal hygiene practices
- Satisfaction derived from caregiver's service.

4.4.1 Cleanliness

In fig.3, Cleanliness was measured looking at the general home and the kitchen environments through observation. A three-point scale check list 'very clean'; 'clean'; and 'fairly clean' was used for the observation. This was because cleanliness or sanitation is an integral component of food safety and the outcome for both the home and kitchen environment were presented as followed.

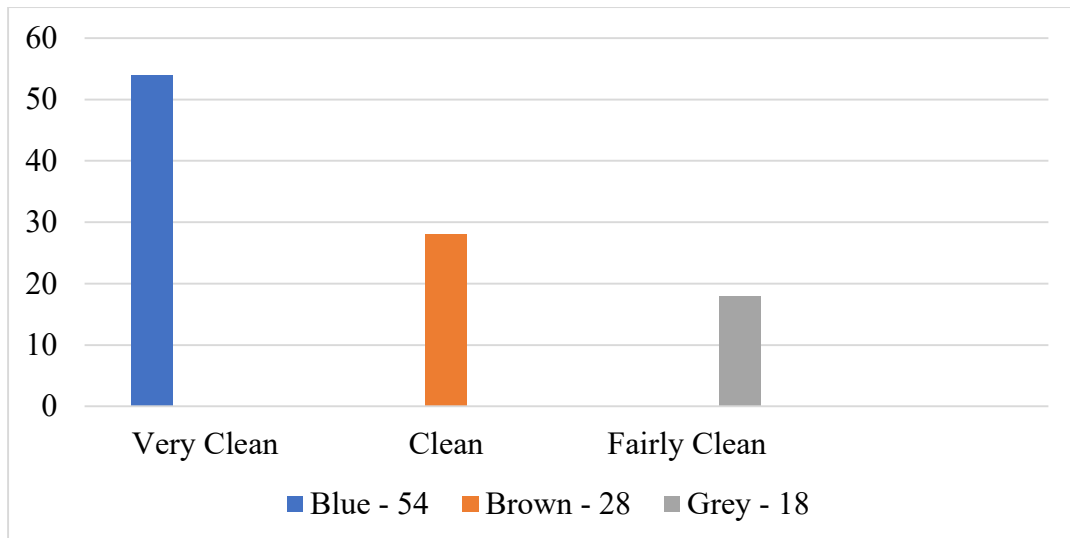


Figure 3: Cleanliness of home and kitchen environment

Information presented on Figure two (2) indicates that a little over fifty percent of the respondents (54%) had their home environments very clean, 28% had a clean environment and 18% had a fairly clean environment. The information gathered on the home environment was used as index to the situation in the kitchen. Based on this, it could be deduced that generally, the caregivers strived to keep themselves and their environments clean.

4.4.2 Satisfaction derived from caregiver's service.

The aged were asked to express their perceptions about the services the caregivers were rendering, and the opinions expressed were recorded and transcribed. Some of the aged persons praised their caregivers saying that:

My caregiver has been living with me for about five years now, she respects me and takes good care of me. Though she is a good cook and sometimes prepare meals I like, there are a few things she needs to get accustomed to. For instance; her salt intake is high which makes the meals she prepares too salty for me. I am supposed to reduce my carbohydrate intake also but she prepares "akple" or "banku" with a lot of cassava dough which is not good for me. This is because she prepares meals for the entire family and finds it difficult to meet my peculiar food requirements.

My caregiver really knows how to care for an aged person. She/ keeps my room tidy and neat and ensures that I am always comfortable. She is respectful and hardworking She knows how to prepare food, especially our local dishes which I enjoy most. She uses local spices like onion, ginger and cloves and other local spices in her meal preparations which are healthier than the maggi and those artificial things added to food which are not healthy. My problem is that she is sluggish and therefore delays mealtimes.

Though my caregiver has never been to school, she is neat, smart, and ready to learn. Whatever I tell her or teach her especially in meal preparation she does it well. Though she has been with me for a very short period, I appreciate her a lot.

Another had this to say;

“She has basic knowledge about food preparation because she attended vocational school. She knows how to combine different foodstuffs to make a delicious meal. Also, she always makes sure that food is served and eaten hot and on time. I enjoy her company because she is a good conversationist and can make you laugh.

Others had these to say about their caregiver:

Though my caregiver is a male, he is so serviceable, he is always with me, Also, he is a good cook; preparing delicious meals for me all the time. Because he goes to hospital with me, he follows the instructions given concerning what I should eat and those that I should not. We usually discuss what we would eat and he will always give reasons for the choice of dishes he chooses to prepare. I think he has a good knowledge about nutrition and health especially for the aged despite the fact that he has never been to school.

An aged woman recounted some of her experiences of the nutritional practices of her caregiver as follows:

“The lady who takes care of me and prepares food for me is very good, and she selects correct foodstuffs to prepare food for me that meets my taste and health needs...she normally discusses or enquires from me most of the times about what I feel like eating before going to the market to buy the foodstuffs. So, my mind is already prepared for the food and I enjoy eating it when it is finally prepared and served because she prepares exactly what I said I wanted to eat. At times especially in the afternoon, she serves me with some oranges and bananas after eating. She says they are good for my body.”

Another aged person said this about the food his caregiver serves him.

“The food that my caregiver serves me in the afternoons and evenings are tasty. In fact, I can say the foods he serves me are delicious and nutritious. She tells me to be chewing fish bones because they will contribute to making my bones strong. Also, at times she grinds some of the bones, maybe chicken bones and other soft bones and uses them to prepare stew for me. Also, she serves me fruits like oranges, pineapple, watermelon, or banana before or after meals. She says they provide vitamins and that they are very good for me.”

In terms of the right time for serving food to the aged, the majority of the aged said their caregivers were very committed to serving them at the appropriate times in the morning, afternoon, and evening. Also, concerning the quantity of food that is served to them, they said that the caregivers normally measure the food and serve them according to the quantity they can take. With regard to the quantity of food, one of the aged recounted that:

“She serves me what will satisfy me. At least she knows the quantity of food that I can consume, so she does not serve me plenty of food than I can take if not the rest will be wasted.”

One of the aged stated that:

“I believe the nutritional knowledge of the lady who takes care of me and her nutritional practices, have helped to improve my health. I know that some food can cause or increase risk to some diseases while others make us healthy. It seems she knows what is good for my ageing body. Thus, she is able to select food stuffs and prepare meals that are good for me. I do not eat cassava dough, fufu made from cassava, polished rice, salt, and sugar due to my health conditions. Also, I do not eat fresh meat or fresh fish but only dry fish. Since she knows my health condition, she makes sure that my food does not contain the foodstuffs that will worsen my health condition. “

Another aged man recounted that:

I can say the food that my caregiver serves me contributes to making me feel healthy. I am saying this because since he came in, I have observed improvement in my ability to carry out some basic daily activities like walking around and bathing myself. I am visiting my friend in the next house. I suffer from hypertension so he has reduced my salt and sugar intake, I do not fall sick often. Also, when I visit the hospital, the doctor advises me on what to eat and what not to eat, and my caregiver goes according to the doctor’s advice.”

However, few of the aged expressed some level of disappointment with the quality of the nutritional practices of their caregivers. For example, some of them indicated that their caregivers do not serve them a variety of dishes and are made to eat one type of food for many days whereas others indicated that they are not consulted by their caregivers to ask what they will eat but are only served with what the caregivers feel like serving them. Contrary to the account of some of the aged as stated above, one of them had this to say about her caregiver with regard to her nutritional practices:

I do not think the young girl is very good at cooking. I have told my children to bring me someone who is very respectful and good at cooking. She does not prepare a variety of dishes, and I cannot even compare her with my grandchildren. She likes preparing one-way food, and when she comes back from the market, I do not see any variation in the foodstuffs she buys from the market.

From the presentations above, responses indicate that caregivers served the aged with their preferred dishes and at the right time. Others indicated that their caregivers provide them with snacks after meals, and anytime they feel like taking some light instead of the usual heavy meals. Moreover, some the aged said they were served with a variety of meals in a day which helped in boosting their appetite as they do not eat the same type of food continuously within a particular period. Therefore, it could be deduced that the aged were satisfied with the kinds of services they were enjoying from their caregivers. In spite of the fact that response in relation to research question three indicated satisfaction on the part of the aged, it was necessary to find out factors that influenced the nutritional activities of the caregivers, and the research question four sought answers to that.

4.5 RQ 4: What factors influence the nutritional practices of the caregivers of the aged in the North Dayi District?

This question sought to find out the factors that influenced the nutritional practices of the caregivers and the themes under which data was collected and analysed included: Social factors, economic factors, and environmental factors.

4.5.1 Social factors – relationship between aged and caregivers

It was thought that relationship counts in the provision of caregiving services. As such, both the caregivers and the aged were asked to describe the relationship that exist between them and some of them had this to say:

My caregiver is my daughter-in-law, and she has been living with us since she got married to my son. I consider her as my daughter, and she also respects me and treats me like her own mother. In fact, she calls me “mama”. Our relationship is very cordial.

My caregiver is a good person. She is so friendly and treats me with respect. It is my prayer that she will be with me till my last days.

My caregiver is very young, younger than some of my grandchildren. When she wants to be on her own and you call her to come and do something for you, then she will behave rudely towards you, but I take it she is too young to understand what she is doing.

Well, as for me, my caregiver is my companion. This is because during the day we are the only people left in the house. The rest go to work or to school and come back in the evening. He tells me a lot of stories; some about his brave acts, most of which are lies. But I enjoy them.

My caregiver is okay, but she drinks occasionally especially when there are funerals in town and when she is drunk, she misbehaves and that is what I do not like about her.

The caregivers also expressed their opinions as follows:

Well, the person I am taking care of is my aunt and therefore we enjoy a kind of mother-daughter relationship. She took care of my mother when my mum was young, so I am kind of reciprocating that kind gesture.

I have been with the aged person I am taking care of for a very long time, we enjoy each other's company. Though he is far older than I am but he calls me 'brother' and treats me well.

My madam is a highly educated person and has taught me a lot of things. I know that if I travel abroad, this work will be very easy for me to do because I have learnt a lot.

4.5.2 Economic factors

Questions that bordered on economic issues were reserved for the caregivers. The main question was whether the caregivers had adequate financial support to help them carry out their caregiving activities, especially activities that are nutritionally inclined. Some of them had this to say:

Money to take care of the needs of the old lady is not a problem. Money is given on daily basis to take care of the food needs of the family including that of the old lady.

Though her children are not around, they always ensure that our needs are met so I have no challenge preparing meals for her.

We sometimes face hardships especially when our house-keeping money is not sent in good time. However, I have someone I borrow from and then when our money comes then I go to pay back.

I intend to leave this job by the end of the year. I was contracted to attend to the old man alone but almost all the people of the house have turned me into their maid, but that was not the contract I had with them. I do not mind cooking for the whole family but I also wash their clothes, clean their rooms and go on errands for them. The worst part of it is that they do not add a pesewa to my salary. I have asked my uncle to look for a better one in the city for me. He said a friend promised him one by the end of the year. So, I am patiently waiting for it.

4.5.3 Environmental factors

This was to find out whether the caregivers get the food resources they need from their immediate environment.

I buy all my foodstuffs from the local market; my only problem is that of late farm produce and foodstuff have become expensive. But what can one do? Life must go on. I pray that the government works hard on the economy to see to it that food prices come down.

I get everything that I need to prepare meals for my old lady from the local market. What I do is that during the market days for the kaolin that is mined in this town, a lot of other traders visit our town to trade so we get cheaper foodstuff. I take the opportunity to seek permission from my boss to buy in bulk which lasts the family a considerable number of days.

Getting the right foodstuff to prepare food had never been a problem to us. The only issue is that things have become quite expensive and one goes to the market and comes home with scanty ingredients. Sometimes, it appears as if you have kept some of the money for the purchasing to yourself, but upon a thorough calculation, it is realised that none of the money is missing.

Based on the discussions above, it could be said that the factors assessed did not have adverse effects on nutritional activities. Most of the ingredients and foodstuff if not all, that would ensure proper nutrition for the aged in the North Dayi District could be gotten from the environment.

4.6 Chapter Summary

The study found out that caregivers had a good level of nutritional knowledge and therefore were able to meet the food needs of the aged satisfactorily. Also, the discussions indicated that the nutritional knowledge of caregivers influenced their practices. Meals prepared and served to the aged by caregivers are under hygienic conditions and so the aged were prone to little or no contamination. From the study it is clear that those who contracted the caregivers do not deny them what is due them and there is generally the availability of what they would need to effectively take care of the aged entrusted in their care. The issue of deprivation and starvation did not arise. A majority caregivers appear to be comfortable with their work while the aged appear to enjoy the services of the caregivers. That had ensured a positive work environment for most of the caregivers and their clients. However, there a few disgruntled caregivers who experience burnout and ingratitude from clients and would not want to continue

with them again. The summary, conclusions and recommendations would be looked at in the next chapter.



CHAPTER FIVE

SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 Overview

This chapter is the last chapter of the study. It presents the summary of the study, conclusions, recommendations and suggestions for further research.

5.2 Summary

The study sought to investigate the nutritional knowledge of caregivers and the influence of their knowledge on their nutritional practices in providing care for aged persons in the North Dayi District in the Volta Region of Ghana. The research questions that guided the study were as follows: 1) What nutritional knowledge/information do caregivers of the aged persons in North Dayi District have? 2) What nutritional practices do caregivers for the aged in the North Dayi District employ in providing care for the aged under their care? 3) What influence does nutritional knowledge of caregivers have on their practices in providing care for the aged? 4) What factors influences the nutritional practices of the caregivers of the aged in the North Dayi District?

The qualitative approach to research was chosen for the conduct of the study because the study sought to gather in-depth information to verify the influence of nutritional knowledge on nutritional practices of caregivers providing care for aged persons in North Dayi District because nutrition has implications for health and wellbeing, The study adopted the case study design in order to help describe how the nutritional knowledge of caregivers providing care for the aged in the North Dayi District of the Volta Region influence their nutritional practices. The case study design was adopted

because it allows interaction with participants in their natural settings to collect high-quality and honest data without any form of manipulation. The population for the study included the aged persons who were sixty-five years and above and their caregivers residing in the Volta Region of Ghana, and the target population involved the aged who were sixty-five years and above and caregivers in three selected communities in the North Dayi District namely; Anfoega, Vakpo, and Wusuta. The sampling techniques employed were purposive, convenience and snowballing sampling procedures. The purposive sampling technique was used to purposively select the three communities (Vakpo, Wusuta and Anfoega) for the study because the scalogram report of the South Dayi District indicated that these communities were endowed with facilities and amenities relevant in providing care for the aged. There was the need to identify a reference source to work with in the identification of respondents in the selected communities. Thus, the convenience sampling technique was used to identify the first respondent who then served as basis for the network sampling. The snowball sampling technique was employed to help identify the aged who had caregivers caring for them irrespective of whether the caregivers were relatives or not. This was because there was no reliable database that had information on the aged and caregivers in the district. Thus, it was deemed appropriate to rely on informants to identify as many aged persons and caregivers as possible for the purpose of data collection.

The sample size for the study was 50 caregivers and 50 aged people from the Anfoega, Vakpo and Wusuta townships in the North Dayi District of the Volta Region. Data was collected through face-to-face interviews after obtaining the consent of the respondents. The collection of data lasted for three weeks. The interview was facilitated by the use of a semi-structured interview guide with predetermined set of questions based on the objectives of the study. With the permission of the respondents, the

interviews were recorded using a voice recorder application on the researcher's mobile phone. The study employed a semi-structured interview guide as the main instrument for data collection and data was analyzed using the thematic approach. Analysed data was presented using frequencies and percentages and presented in tables and charts. Also, some of the responses were transcribed and presented verbatim.

5.3 Summary of Key Findings

The key findings of this study were as follows:

5.3.1 Nutritional Knowledge of Caregivers of the Aged

The first objective set out to examine the nutritional knowledge of caregivers of the aged in the North Dayi District of the Volta Region of Ghana. The study revealed that despite the fact that a majority of the caregiver-respondents had no formal education or any form of training in relation to caregiving and its attendant nutrition of the aged, they had basic information through exposure; practice, observation, and offering assistance to other caregivers of the aged at the household level which guided their nutritional practices in providing care for the aged. The caregiver respondents exhibited a good knowledge about nutrition for the aged and food safety practices.

5.3.2 Nutritional Practices of Caregivers for the Aged

The second objective set out to assess the nutritional practices of caregivers for the aged in the selected communities in the North Dayi District. It was revealed that more than half the number of the aged were fed three times a day and with some receiving snacks as well. The breakfast for the aged was served between 6:30 a.m. and 9:30 a.m. with the majority occurring between 7:30a.m. to 8:30 a.m. The average time for their lunch service was between 1:00p.m to 1:59p.m. while the average time for supper was between 5:30p.m. to 6:30p.m. Again, while many caregivers lack formal education, they

often develop effective food handling strategies, including maintaining appropriate food storage temperatures, practicing hand hygiene during meal preparation, and implementing thorough cleaning methods for kitchen surfaces. These strategies are largely self-taught or stem from anecdotal experiences, and sometimes influenced by the experiences or expertise of the aged receiving the care.

5.3.4 Nutritional knowledge of caregivers that influence their nutritional practices

Third objective sought to investigate whether the nutritional knowledge of caregivers influence their practices in meeting the nutritional needs of the aged they care for. The study indicated that a little over fifty percent of the respondents (54%) had their home environments very clean, 28% had a clean environment and 18% had a fairly clean environment. The information gathered on the home environment was used as index to the situation in the kitchen. Based on this, it could be deduced that generally, the caregivers did well to keep themselves and their environments clean. With regards to the relationship between the caregivers and the aged, it came to light that a majority of the aged were satisfied with the services they were enjoying from their caregivers and the caregivers also say they enjoy working with the aged and their families. Again, the study revealed that caregiving was an important source of livelihood for both female and male caregivers.

5.3.5 Factors influencing the nutritional practices of the caregivers of the aged

The fourth objective was to explore factors influencing the nutritional practices of the caregivers of the aged in the North Dayi District. From the study it is clear that social, economic, and environmental factors influence the caregiving engagement. It was realised that those who contracted the caregivers do not deny them what is due them and there is generally the availability of what they would need to effectively take care

of the aged entrusted in their care. The issue of deprivation and starvation did not arise. In relation to remuneration, most of the caregiver respondents indicated they were not paid salaries but received cash and material gifts from the family members and friends of the aged persons they were caring for because they were related in one way or the other to the aged persons they were caring for. This is an indication that most family members who provide care at the family level do not receive adequate remuneration. Even those who receive salaries are given extra duties by the aged people's household. However, do not compensate the caregivers for the extra tasks assigned to them. And that situation was found to cause employee burnout and was a possible avenue for employee turnover.

5.4 Conclusions

In conclusion, it was revealed that even though the caregivers had very little or no professional training or tutoring about aged caregiving and nutrition, they had acquired basic information through exposure; practice, observation, and by offering assistance to other caregivers of the aged at the household level which guided their nutritional practices in providing care for the aged. Through the actions and inactions of some of the aged receiving care, some of the caregivers learn basic sanitation practices and they as much as possible avoid food contamination especially 'cross-contamination'. The caregiver respondents exhibited a good knowledge about nutrition for the aged and food safety practices, without necessarily having much scientific knowledge behind it.

5.5 Recommendations

Based on the findings of the study, the following recommendations were made:

1. In spite of the fact that the majority of the caregiver respondents were not trained or had no formal education in caregiving, they were able to meet the nutritional

needs of the aged they were caring for. It is therefore, recommended that community-based organisations (CBOs) that are interested in the aged such as NGOs should institute periodic training programmes for the caregivers of the aged to give them sound footing to enable them provide adequate and wholistic services in the North Dayi District.

2. Metropolitan, Municipal and District Assemblies (MMDAs) can also tie aged care giving training programmes to Livelihood Empowerment Programmes (LEP) to prepare interested persons to access that avenue for livelihood and benefit from nutrition education and andragogy in the North Dayi District from time to time.
3. Research based institutions such as universities and colleges also should carry out more studies in relation to caregiving for the aged to gather localized information about aged nutrition and care giving practices to build a body of knowledge relevant for aged care giving and nutrition.
4. Lastly, families in the North Dayi District that have entrusted other people with the care of their aged family members should endeavour to provide adequate support in terms of fund, supplies and other forms of motivation to help motivate the caregiver to provide the needed services.

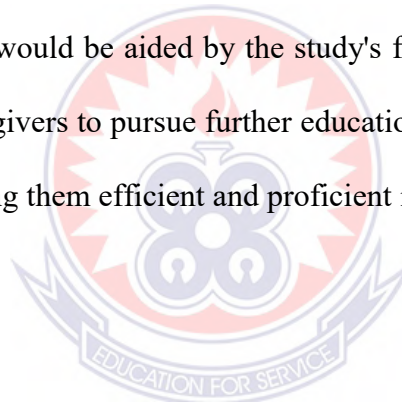
5.6 Suggestions for Further Research

1. A comparative study could be carried out to compare home-based and institutionalized caregiving for the aged.
2. A survey to assess preparatory requirements of people who offer home-base care for the aged.
3. Replication of the same study in different communities to ascertain social factors that influence care giving of the aged.

5.7 Contribution of the study to the Body of Knowledge

This study makes a contribution to the existing body of knowledge by shedding light on the implications of caregivers' nutritional knowledge on the nutritional practices they employ for the aged or elderly. In addition, the caregivers will be informed by this study's findings on the extent of their nutritional knowledge, which will allow them to expand upon it. In a similar vein, the food routines of caregivers might be understood more clearly with the assistance of this study. This knowledge would also be beneficial to caregivers because it would better equip them to assist the older people in their care in developing healthy eating habits.

Uncovering how much caregivers' nutritional knowledge affects their nutritional practices for the aged would be aided by the study's findings. This would also create the awareness for caregivers to pursue further education on the health and nutrition of the aged thereby making them efficient and proficient in their field of engagement.



REFERENCES

- Appoh, L. Y., & Krekling, S. (2005). *Maternal nutritional knowledge and child nutritional status in Ghana*. *Maternal & Child Nutrition*, 1(2), 100-110.
- Babbie, E. R. (2021). *The basics of social research (8th ed.)*. Cengage Learning.
- Bell, E., & Bryman, A. (2022). *Business research methods (6th ed.)*. Oxford University Press.
- Black, M. M., Walker, S. P., & Fernald, L. C. (2018). Early childhood development and nutrition: A review of the evidence. *The Lancet*, 389(10064), 77–90.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Brown, A., Davis, P., & Green, R. (2019). Health and hygiene in caregiving: A focus on food safety. *Journal of Community Health*, 34(2), 123–134.
- Bryman, A., & Bell, E. (2019). *Business Research Methods*. Oxford University Press.
- Chege, P. M., & Kuria, E. N. (2017). The influence of caregivers' nutritional knowledge on the dietary practices of children: Evidence from Kenya. *African Journal of Food, Agriculture, Nutrition and Development*, 17(1), 11506–11520
- Clarke, R., Smith, A. D., Jobst, K. A., & Refsum, H. (2021). The role of nutrition in cognitive function and aging. *Journal of Neuropsychology*, 15(2), 225-237.
- Cleave, L. (2023). Sampling techniques in social science research. *Journal of Research Methodologies*, 29(1), 53-68.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. SAGE Publications.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches (6th ed.)*. Sage Publications.
- Dwyer, J. W., & Coward, R. T. (2020). *Gender, Families, and Elder Care*. Springer Publishing.
- Essuman, J. K., & Mate-Kole, C. C. (2021). *Population ageing and care of older adults in Ghana*. [Journal/Publisher details].
- Flick, U. (2022). *An introduction to qualitative research (7th ed.)*. Sage Publications.
- Food and Agriculture Organization of the United Nations (2014). *Understanding the linkages between knowledge, attitudes, and practices in nutrition: A review of KAP studies and their application in policy and programming*. Rome, Italy: FAO.

- Gibson, R. (2018). Cultural influences on food safety practices in community caregiving. *Public Health Quarterly*, 45(4), 321–333.
- Halder, S., & Kejriwal, K. (2016). The influence of caregiver education on the health outcomes of care recipients. *Journal of Geriatric Research*, 12(3), 45-52.
- Humphries, K., Traci, M. A., & Seekins, T. (2009). Nutrition and aging: Addressing the challenges faced by caregivers. *Journal of Gerontological Care*, 23(4), 15-22.
- Johnson, K. (2022). Self-taught knowledge in caregiving environments: Analyzing the impact on food safety. *International Journal of Caregiving Studies*, 14(1), 89–102.
- Jones, M. (2020). Enhancing writing skills through literary analysis. *English Education Journal*, 25(2), 78-95.
- Kamp, B. J., Wellman, N. S., & Russell, C. (2020). Nutrition needs of older adults. *Geriatric Nursing*, 41(5), 643-648.
- Kemboi, L. K. (2021). Caregiver nutrition education and its impact on dietary practices: A focus on reducing malnutrition. *Journal of Public Health Nutrition*, 24(3), 250–262.
- Lindsay, J., Giskes, K., & Turrell, G. (2008). Cultural and social determinants of dietary practices among the elderly: A systematic review. *Public Health Nutrition*, 11(10), 1148–1156.
- Liu, R., & Davis, T. A. (2020). The informal learning of caregivers in elderly nutrition and food safety. *Nutrition & Aging*, 19(2), 214-230.
- Martin, L., Gomez, S., & Lane, T. (2019). Storage practices and food safety: The role of informal education among caregivers. *Food and Nutrition Research*, 17(3), 289–298.
- McKinnon, R. A., Lytle, L. A., & Kubik, M. Y. (2014). The role of nutritional knowledge in promoting healthy eating behaviours. *Journal of Nutrition Education and Behaviour*, 46(6), 345-350.
- Milosavljevic, T., Gaskell, A., & Moodie, M. (2017). *Challenges in addressing micronutrient malnutrition in older adults*. *Clinical Nutrition*, 36(3), 721-729.
- Mole, L., Kent, B., Abbott, R., Wood, C., & Hickson, M. (2018). The impact of tailored nutritional education on caregivers' ability to support patients: A systematic review. *Clinical Nutrition*, 37(2), 543–551
- National Institute on Ageing. (2022). *Global ageing trends report*. National Institute on Ageing.
- Nikolopoulou, K. (2023). Advanced sampling techniques in social research. *Journal of Social Science Methodology*, 41(2), 112-130

- O'Brien, T. (2020). Traditional food handling knowledge among uneducated caregivers. *Health and Nutrition Journal*, 12(5), 213–225.
- Obi, M. A., Akinmoladun, F. O., & Akinmoladun, O. O. (2017). Nutritional challenges in elderly populations: A case study from rural Ghana. *Journal of Geriatric Nutrition*, 34(2), 143-150.
- Pablo, J. (2023). Global aging trends and their implications for the future. *Global Demographic Review*, 7(2), 125-136.
- Pierce, G. R., Sarason, B. R., & Sarason, I. G. (1991). *Handbook of social support and the family*. Springer Science & Business Media.
- Quartey, G., Ziem, J., & Dzorgbe, S. (2020). Continuity in caregiving: Enhancing rapport and personalized care for older adults. *Journal of Geriatric Care*, 33(1), 45-53.
- Saloojee, H., De Maayer, T., Garenne, M. L., & Kahn, K. (2007). Nutritional challenges for the elderly: Social and cultural constraints. *Journal of Clinical Nutrition*, 26(2), 157–164.
- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students (6th ed.)*. Pearson Education Limited.
- Shetty, S (2024), *Determining sample size for qualitative research: What is the magical number*. InterQ Research.
- Shi, X., & Zhang, Y. (2011). The impact of caregiver nutritional knowledge on overcoming cultural misconceptions and improving feeding practices. *Journal of Global Nutrition Studies*, 19(3), 215–230
- Sitoe, M., Agblorti, S., & Alhassan, H. (2021). Nutritional challenges and caregiving for the elderly in rural Ghana. *Global Health Nutrition*, 11(4), 97-106.
- Spronk, I., Kullen, C., Burdon, C., & O'Connor, H. (2014). Relationship between nutrition knowledge and dietary intake. *British Journal of Nutrition*, 111(10), 1713-1726.
- Sunguya, B. F., Pembe, A. B., Mlunde, L. B., & Charles, S. (2013). The role of caregiver nutritional knowledge in reducing undernutrition among elderly individuals. *Journal of Aging and Nutrition*, 21(4), 310–321.
- The Lancet Healthy Longevity. (2022). Global population reaches 8 billion: A milestone in the aging demographic. *The Lancet Healthy Longevity*, 3(12), 763-764.
- Torheim, L. E., Ferguson, E. L., Penrose, K., & Arimond, M. (2018). Women's nutrition knowledge is associated with greater dietary diversity in rural Ethiopia. *Food and Nutrition Bulletin*, 39(2), 160-168.

- Volkert, D., Chourdakis, M., Faxen-Irving, G., & Frühwald, T. (2015). *Nutritional management in patients with Alzheimer's disease*. *Clinical Nutrition*, 34(7), 1052-1063.
- Weddle, D. O., & Wellman, N. S. (2009). Family caregivers for Alzheimer's patients: The importance of nutritional education and support. *Journal of Nutrition for the Elderly*, 28(3), 271–283.
- Wilchez, G., Sánchez, P., & Díaz, R. (2019). Community knowledge and its role in fostering good health: A review of evidence-based practices. *Journal of Public Health Research*, 8(4), 241-252.
- World Health Organization (2020). *5 A Day for better health*. Retrieved from <https://www.who.int>.
- World Health Organization. (2015). *World report on ageing and health*. WHO.
- Worsley, A. (2002). Nutrition knowledge and food consumption: Can nutrition knowledge change food behavior? *Asia Pacific Journal of Clinical Nutrition*.



APPENDICES

APPENDIX A

Interview Guide for Caregivers

UNIVERSITY OF EDUCATION, WINNEBA

THE DEPARTMENT OF HOME ECONOMICS

TOPIC: ASSESSING THE NUTRITIONAL KNOWLEDGE AND NUTRITIONAL PRACTICES OF CAREGIVERS OF THE AGED IN THE NORTH DAYI DISTRICT OF GHANA

These questions are for academic purposes only, and all information divulged, would be kept confidential. Participants can however refrain from taking part if they feel uncomfortable in doing so.

1. Sex
2. Age
3. Town of Residence
4. Marital Status
5. What is your educational background
6. What do you understand by the term nutrition?
7. Do you know the nutrients in the food you prepare for the aged person you are caring for and what do the nutrients do for him/her?
8. What food do you prepare for the person you are giving care to and who told you to prepare those dishes?
9. Do you consider the effects of the food you serve to the aged person you care for?
10. What factors influence your preparation and serving of food to the aged you care for?



11. What quantity of food do you serve the person you care for?
12. What time do you serve breakfast, lunch, and supper to the aged you care for?
13. Do you serve the aged person snacks? When, and what do you serve?
14. Do you have any formal training or tutelage in nutrition for the aged?
15. What is food safety and what are some food safety practices that you go through when serving the aged?
16. Do you receive payment for the care you are giving?
17. Do you enjoy your work? Explain.



Thank You.

APPENDIX B

Interview Guide for Aged Receiving Care

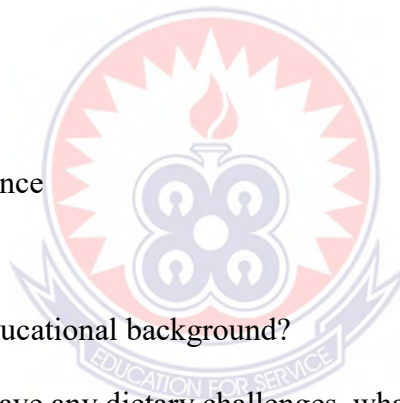
UNIVERSITY OF EDUCATION, WINNEBA

THE DEPARTMENT OF HOME ECONOMICS

TOPIC: ASSESSING THE NUTRITIONAL KNOWLEDGE AND NUTRITIONAL PRACTICES OF CAREGIVERS OF THE AGED IN THE NORTH DAYI DISTRICT OF GHANA

These questions are for academic purposes only, and all information divulged, would be kept confidential. Participants can however refrain from taking part if they feel uncomfortable in doing so.

1. Sex
2. Age
3. Town of Residence
4. Marital Status
5. What is your educational background?
6. Please do you have any dietary challenges, what do you not eat?
7. Does your caregiver prepare your food the right way?
8. Are you satisfied with the services rendered by your caregiver?
9. Is your caregiver paid a salary? If no, why not?
10. How would you rate the performance of your caregiver? Please explain.
11. What is the relationship between you and the caregiver like? Please explain.



Thank You.