

UNIVERSITY FOR DEVELOPMENT STUDIES

**KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING EPILEPSY
AMONG NURSES IN ASUTIFI NORTH DISTRICT**

RICHARD OPOKU ASARE

2019



UNIVERSITY FOR DEVELOPMENT STUDIES

**KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING EPILEPSY
AMONG NURSES IN ASUTIFI NORTH DISTRICT**

BY

RICHARD OPOKU ASARE (B.Ed. Health Sciences)

(UDS/CHD/0207/15)

**A THESIS SUBMITTED TO THE DEPARTMENT OF PUBLIC HEALTH OF
THE SCHOOL OF ALLIED HEALTH SCIENCES, UNIVERSITY FOR
DEVELOPMENT STUDIES, IN PARTIAL FULFILMENT FOR THE
REQUIREMENTS FOR THE AWARD OF MASTER OF
PHILOSOPHY IN COMMUNITY HEALTH AND DEVELOPMENT**

JANUARY 2019



DECLARATION

Student

I hereby declare that this submission is my own work towards the Masters of Philosophy in Community Health and Development and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

RICHARD OPOKU ASARE.....

(UDS/CHD/0207/15)

Signature

Date

Supervisor

I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University for Development Studies.

DR. PAUL ARMAH ARYEE.....

Supervisor's Name

Signature

Date



ABSTRACT

Despite the increasing education and health care on epilepsy, some health professionals continue to linger in darkness about cause and treatment for epilepsy. Efforts to improve care of PWE are a major concern, little has been done to identify the extent of subjective knowledge, attitude and practice among nurses. The main objective of this study was to assess the knowledge, attitude and practice regarding epilepsy among nurses. The study employed an exploratory descriptive cross-sectional design with 102 participants. Data was collected using a paper-based semi-structured questionnaire. Results showed that 67.7% of the nurses were aware of the causes of epilepsy, 59.8% have low level of knowledge on the disease. Though 82.4% of the nurses suspect PWE to have mental illness, 70.6% of the nurses had good attitude towards epilepsy. However, 52.9% exhibited poor practices towards the disease. The socio-demographic characteristics of religion (Muslim) ($p=0.017$), area of speciality (RMN) ($p=0.045$) as well as close family relationship with epilepsy ($p=0.001$) were significantly associated with knowledge on epilepsy. Factors that were found to influence attitude towards epilepsy were sex (Female) ($p=0.037$), religion (Muslim) ($p=0.012$) and specialty area (RMN) ($p=0.054$). The area of specialty statistically influences their practices on epilepsy ($p=0.001$). There was no statistically significant association between knowledge on epilepsy and practice ($p=0.134$). However, attitude significantly related to practices on epilepsy ($p=0.008$) and indicated that poor attitude was more likely to be associated with poor practice. In conclusion, nurses at the Asutifi North District tended to have low knowledge, attitude and practices on epilepsy. It is important to improve training and health care delivery for epilepsy; and further research should be conducted on stigma against PWE.



ACKNOWLEDGEMENT

The journey of conducting this research requires the support of many people. I wish to extend my profound gratitude to Dr. Paul Armah Aryee, my supervisor, without his patience, direction, companionship and support this study would not have been a successful one. May his good works be recognized throughout his life-time.

I am also indebted to Mr. Akwasi Boakye-Yiadom, coordinator for MSc/MPhil Community Health and Development programme, UDS, Tamale, whose tutelage contributed to the success of this study.

I am most thankful to the Asutifi North District Health Directorate in the Brong Ahafo Region of Ghana for allowing me to use their nurses for this study. For the study participants, I am very grateful to them for sharing their knowledge with me. God bless them.

My heartfelt gratitude goes to Mrs. Martha Asare, Keziah Fremah Asare, and Kyria Serwaa Asare for tolerating my frequent absences from home, in the face of challenges, supporting and praying for me for a successful completion of this study.

I wish to thank the numerous authors from whose publications I gathered information pertaining to the study, and all friends for their countless support.

Lastly, I thank the Almighty God for giving me the knowledge and strength in carrying out the study.



TABLE OF CONTENTS

DECLARATION	i
ABSTRACT.....	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF ABBREVIATIONS/ACRONYMS	xi
CHAPTER ONE	1
INTRODUCTION TO THE STUDY.....	1
1.0 Overview	1
1.1 Background to the study.....	1
1.2 Statement of the problem	6
1.3 Research Questions	7
1.4 Objectives of the study	7
1.4.1 Main objective	7
1.4.2 Specific objectives	8
1.5 Significance of the study	8
1.6 Delimitation of the study.....	8
1.7 Operational definition of terms	9
1.8 Conceptual framework	10



1.9 Organization of the study	11
CHAPTER TWO	12
REVIEW OF RELATED LITERATURE	12
2.0 Overview	12
2.1 Review of theoretical perspectives of the study.....	12
2.1.1 Spiritual model and epilepsy	12
2.1.2 Biopsychosocial model and epilepsy.....	13
2.2 Knowledge on epilepsy	17
2.2.1 Perceived causes of epilepsy	20
2.2.2 Perceived manifestations of epilepsy	26
2.2.3 Perceived ways of transmission of epilepsy	26
2.3 Attitude towards people with epilepsy	29
2.3.1 Nurses behaviour towards people with epilepsy	29
2.4 Practices on epilepsy	34
2.4.1 Care given to PWE during fit attacks	34
2.4.2 Preferred treatment of epilepsy.....	39
2.4.3 Drugs used in managing epilepsy in facility	43
CHAPTER THREE	45
METHODOLOGY	45
3.0 Overview	45
3.1 Study area.....	45



3.1.1 Location and size	45
3.1.2 Population size, structure and composition	46
3.1.3 Economic Activity Status	47
3.1.4 Health facilities.....	48
3.2 Research design.....	50
3.3 Study population	50
3.4 Study unit	51
3.5 Inclusion criteria.....	51
3.6 Sample size determination	51
3.7 Sampling procedure.....	53
3.8 Study variables	53
3.9 Research Instrument for data collection.....	54
3.10 Data collection procedure.....	54
3.11 Data Analysis and presentation of results	54
3.12 Quality control.....	55
3.13 Ethical consideration.....	56
3.14 Limitation of the study	56
CHAPTER FOUR.....	57
RESULTS	57
4.0 Overview	57



4.1 Socio-demographic characteristics of the respondents	57
4.2 Knowledge on epilepsy	59
4.2.1 Awareness of epilepsy	59
4.2.2 Knowledge of factors contributing to the development of epilepsy.....	60
4.2.3 Categorisation of level of knowledge on epilepsy.....	64
4.3: Attitude towards epilepsy.....	64
4.3.1 Nurses behaviour towards PWE.....	64
4.3.2 Ways of transmission of epilepsy.....	65
4.3.3 Categorisation of attitude towards epilepsy.....	66
4.4 Practices on epilepsy	67
4.4.1 Categorisation of practices on epilepsy	70
4.5 Socio-demographic determinants on knowledge, attitude and practices on epilepsy	70
4.6 Knowledge of epilepsy and attitude	74
4.7 Knowledge on epilepsy and practices	75
4.8 Attitude that affects practices on epilepsy.....	78
CHAPTER FIVE	79
DISCUSSION	79
5.0 Overview	79
5.1 Background Information	79
5.2 Research Objective 1: “Determining knowledge on epilepsy.....	80



5.2.1 Perceived causes of epilepsy	81
5.2.2 Perceived manifestations of epilepsy	86
5.2.3 Perceived transmission of epilepsy	87
5.3 Research Objective 2: “Attitude towards people with epilepsy”	89
5.3.1 Nurses behaviour towards PWE	89
5.3.2 Other means of transmission of epilepsy.....	95
5.4 Research Objective 3: “Assessing practices on epilepsy”	97
5.4.1 Care given to PWE during fit attacks	97
5.4.2 Preferred treatment of epilepsy.....	100
CHAPTER SIX.....	103
SUMMARY, CONCLUSION AND RECOMMENDATIONS.....	103
6.0 Overview	103
6.1 Summary of the key findings	103
6.2 Conclusion.....	104
6.3 Recommendations	105
REFERENCES	106
APPENDICES	124



LIST OF TABLES

Table 4.1: Socio-demographic data of respondents	58
Table 4.2: Knowledge of respondents on factors contributing to the development of epilepsy	63
Table 4.3: Level of knowledge of participants	64
Table 4.4: Attitude towards epilepsy	66
Table 4.5: Categorisation of attitude towards epilepsy.....	67
Table 4.6: Practices on Epilepsy.....	69
Table 4.7: Level of practices on epilepsy	70
Table 4.8a: Socio-demographic factors and knowledge on epilepsy.....	71
Table 4.8b: Socio-demographic factors and attitude	72
Table 4.8c: Socio-demographic factors and practices	73
Table 4.9: Nurses behaviour and knowledge on epilepsy.....	74
Table 4.10: Knowledge on epilepsy and Attitude.....	75
Table 4.11: Knowledge and practices on epilepsy.....	75
Table 4.12: Practices and knowledge on epilepsy	76
Table 4.13: Knowledge on epilepsy and Preferred treatment.....	77
Table 4.14: Attitude and practices on epilepsy	78



LIST OF FIGURES

Figure 1: Conceptual framework on knowledge, attitude and practice regarding epilepsy (Source: Author Construction, 2016).....	10
Figure 2: Biopsychosocial model (modified)	14
Figure 3: District map of Asutifi North	Error! Bookmark not defined.
Figure 4: Awareness on causes of epilepsy	Error! Bookmark not defined.



LIST OF ABBREVIATIONS/ACRONYMS

ADB	Agricultural Development Bank
AEDs	Antiepileptic Drugs
CHPS	Community-Based Health Planning and Services
DHMS	District Health Management System
EEG	Electroencephalography
FASD	Fetal Alcohol Syndrome Disorder
GCAE	Global Campaign Against Epilepsy
GHS	Ghana Health Service
GSS	Ghana Statistical Service
GTCS	Generalized tonic-clonic seizure
IBE	International Bureau for Epilepsy
ILAE	International League Against epilepsy
MoH	Ministry of Health
MRI	Magnet Resonance Imaging
OPD	Out Patient Department
PWE	Person(s)/People with Epilepsy
SAHS	School of Allied Health Sciences
SUDEP	Sudden unexpected death in epilepsy
UDS	University for Development Studies
WHO	World Health Organization



CHAPTER ONE

INTRODUCTION TO THE STUDY

1.0 Overview

This chapter of the study covers the background of the research work, statement of the problem, purpose of the research and significance of the study as identified and discussed. The rest included the delimitation, justification and the operational definition of terms.

1.1 Background to the study

Epilepsy and psychiatry have historical links. The three ancient Indian medical systems of *Siddha*, *Ayurveda* (Science of life), and *Unani* all recognized epilepsy (Dung et al., 2009). Epilepsy comes from the Greek word “*epilambanein*”, which means to be attacked or to be seized (Shahbo, Bharathi, & Daoala, 2014; Verma & Vankar, 2016). Shahbo and colleagues (2014) further reiterated that in the Arabic language, the term used for epilepsy is called “Al-Saraa”. The Arab and Muslim scientists like Al-Tabari and Al-Razi also described epilepsy in their books, thousand years ago, as a disease of the brain, making a clear distinction between it and the psychiatric disorders, by stating clearly that epilepsy is not related to evil spirits or supernatural powers (Shahbo et al., 2014). In his treatise on “the sacred disease”, Hippocrates (460–367 BC) established the brain as the site for both epilepsy and insanity. Galen (ca 129–200 AD) thought that fits occurred at the full moon, and a few still labour under the misapprehension that there is an “epileptic personality”. However, some patients with epilepsy undoubtedly have co-existing psychiatric disorders, which may or may not be related to the underlying



pathophysiology, while others have pre-, peri- or post-ictal disturbance that can mimic psychiatric symptoms (Ovsiew, 1994). As epilepsy is one of the oldest known disorders (Neni, Latif, Wong, & Lua, 2010), and it is responsible for an enormous amount of suffering. It is a global problem affecting all ages, races, social classes and countries and it occurs in both men and women (World Health Organization [WHO], 2004).

Epilepsy is a chronic disorder of the brain that affects people worldwide. It is characterized by recurrent seizures, which are brief episodes of involuntary movement that may involve a part of the body (partial) or the entire body (generalized), and are sometimes accompanied by loss of consciousness and control of bowel or bladder function (Neni et al., 2010; WHO, 2016). A seizure (from Latin *sacire*, “to be taken possession of”) is a paroxysmal event due to abnormal, excessive, hypersynchronous discharges from an aggregate of central nervous system neurons (Dung et al., 2009). To give further explanation, a convulsion is a medical condition where body muscles contract and relax rapidly and repeatedly, resulting in an uncontrolled shaking of the body. Because epileptic seizures typically include convulsions, the term convulsion is sometimes used as a synonym for seizure. However, not all epileptic seizures lead to convulsions, and not all convulsions are caused by epileptic seizures. The word “fit” is sometimes used to mean a convulsion or epileptic seizure (Wikipedia, June, 2018).

The WHO (2004) African Regional document further describes epilepsy as one of the major brain disorders worldwide and should be considered a health care priority in Africa. The document reiterated that epilepsy is not only a medical condition; it also includes sociological, economical, and cultural dimensions. Secondary causes of symptomatic epilepsy in Africa are mainly related to the cerebral complications of



endemic parasitic and infectious diseases, to head trauma and to the poor perinatal care for both the mother and the child. Poverty and unsafe environment play an important role as determinant factors.

A recent study has indicated that 70 million people are estimated to suffer from this condition (Verma & Vankar, 2016) out of which 90 percent of these individuals are living in low- and middle-income countries (Ae-Ngibise, et al., 2015). Ae-Ngibise and colleagues (2015) reported that the prevalence of active epilepsy in developing countries range from 5–10 per 1000 people, and the disorder to a significant degree is associated with a host of parasitic and bacteria infectious diseases that are largely absent in industrial countries. Parasitic infestations, such as *Onchocerca volvulus*, *Taenia solium* and *Toxoplasma gondii* are believed to increase the risk of epilepsy (Ae-Ngibise, et al, 2015; Kabir, Iliyasu, Abubakar, Kabir, & Farinyaro, 2005). However, most of the causes of symptomatic epilepsy are preventable and treatable (WHO, 2004). Though the condition has serious physical, psychological, social and economic consequences for the concerned persons and their families, stigma and discrimination dominate social attitudes towards epilepsy. Therefore, it is worth noting that sociocultural dimensions of epilepsy are important determinants of its clinical course, and are often among the major barriers to appropriate treatment (WHO, 2010). Theodore and colleagues (2006) cited Austin, Shafer, and Deering (2002a) by affirming the above stated assertion that epilepsy is not just a clinical disorder but a social label as persistent conceptions of epilepsy as a mental illness reinforce stigma in developed as well as developing regions.

In spite of global advances in diagnosis and treatment in recent years, about eight million people with epilepsy in Africa are not treated with modern anti-epileptic drugs (WHO,



2004). It is also estimated that 80 percent of the burden of epilepsy is in the developing world, where in some areas 80 to 90 percent of people with epilepsy receive no treatment at all (Atlas of Epilepsy Care in the World, 2005). The WHO (2016) Fact sheet data indicated that about three-fourths of people with epilepsy living in low- and middle-income countries do not get the treatment they need. However, epilepsy is a treatable condition and relatively cheap medication is available. As reported by WHO (2010) in support of the statement above, most of the causes of symptomatic epilepsy are preventable and treatable. Antiepileptic medicines can provide effective treatment that is both available and relatively inexpensive. In up to 70 percent of people, epilepsy can be fully controlled by antiepileptic medicines. In developing countries, however, up to 90 percent of people with epilepsy may not receive the treatment they need. The resultant wide treatment gap remains a cause of tremendous individual, family, social and economic burden (WHO, 2010). The treatment gap, therefore, in developing countries remain very high (WHO, 2004). This is because people with epilepsy are viewed with fear, suspicion and misunderstanding. Though these problems are universal, they are greatest in the developing world where 85 percent of the 50,000,000 people with epilepsy live, creating a treatment gap. Sadly, Owusu-Aboagye (2015) cited Dr. Sammy Ohene, who is the President of the Epilepsy Society of Ghana, as saying “More than half of epileptic patients in Ghana could be treated at less than 30 Ghana Cedis a year.”

From the Health Grades (2014) extrapolated statistics, the prevalence of epilepsy in Ghana is about 175,519 for a population of 20,757,032. The annual mortality rate per 100,000 people from epilepsy in Ghana has decreased by 4.2 percent since 1990, an average of 0.2 percent a year. For men, the deadlines of epilepsy in the country peaks at



age 80+. It kills men at lowest rate age 10-14. Women are killed at the highest rate at age 80+. It was least deadly to women at age 10-14. At 27.8 deaths per 100,000 women in 2013, the peak mortality rate for women was higher than that of men, which was 9.9 per 100,000 men (World Development Indicators [WDI], 2016).

Information gathered from Ghana Broadcasting Corporation (2015) website cited Dr. James Boakye Fordjour, the Head of Obstetrics and Gynaecology at Brong Ahafo Regional Hospital, as saying that the Brong-Ahafo Regional Hospital has been recording an increasing number of epilepsy cases since 2013 and that the public should pay much attention to and support people with epilepsy to live meaningful lives. Speaking at the World Epilepsy Day, Dr. Patrick Adjei urged Ghanaians to support and encourage epileptics to live normal lives. According to him, “Epilepsy once diagnosed can go away, do not despise people with epilepsy because epilepsy is not contagious as many have assumed. Epilepsy had nothing do with witchcraft and spirits but comes about as result of physical condition of the brain. Many individuals with epilepsy are perceived by the community as weak, inhuman, dangerous or inferior because of their symptoms, and as result of the stigma, these people are excluded. But epilepsy is treatable and up to 70 percent of the seizure can be cured and the risk of reoccurrence is about 25 percent” (Ghana Health Service [GHS], 2015).

Since there is increasing number of epileptic cases in the Brong Ahafo Region, the Asutifi North District Health Directorate has minimal data on the condition, indicating a gap of information about the condition. Undoubtedly, nurses’ views of people with epilepsy impact their professional interactions with individuals suffering from epilepsy. Besides, nurses in the Asutifi North District play an influential role in the care of the



indigenes when the people visit the various clinics in the communities. It is therefore important to critically determine and assess how the nurses consider people with epilepsy by providing useful insights into the knowledge, attitude and practice regarding the disorder to the community and those living with the disease.

1.2 Statement of the problem

Nyame and Biritwum (1997) reported that literate adults in urban population of Ghana are ignorant of the cause of epilepsy. On a recent field survey (October 3, 2016 to November 11, 2016) by the researcher to the Asutifi North District Health Directorate in Brong Ahafo Region of Ghana, it was observed that among the top 10 diseases in the district, epilepsy was not captured. This could partly be due to the fact that epileptic cases are either reported to Saint Elizabeth Hospital, Hwidiem at the Asutifi South District, under reported to the health centres of the health directorate, or there are no community psychiatric nurses in the Asutifi North District to attend to these individuals. Data gathered from the GHS District Health Information Management System (DHIMS) indicated that the Brong Ahafo Region had recorded 17,666 for cases of epilepsy in 2012, with 104 cases of epilepsy for Asutifi South District, but none for the Asutifi North. In 2013, there was a rise in reported cases of the condition up to 1,888, but a slight decline in Asutifi South with reported cases being 100. However, the Asutifi North Health Directorate recorded no figures. In 2014 and 2015, the number of reported cases increased to 3,166 and 3,495 respectively, whilst the Asutifi South recorded 128 and 125 within the same period, but none for the Asutifi North Health Directorate. However, there was a sharp fall in the reported cases of epilepsy in the Region with a figure of 1,377,



with the Asutifi North Health Directorate recording 10 cases from January to June, 2016, and in the same duration Asutifi South recorded 33 cases (GHS, 2016).

Though efforts to improve care of people living with epilepsy are a major concern, little has been done to identify the extent of the subjective knowledge, attitude and practice among nurses in the Asutifi North District. This research therefore seeks to study the knowledge, the attitude and the practice regarding epilepsy among the nurses in the Asutifi North District.

1.3 Research Questions

The following were the basic research questions:

1. To what extent are the nurses' knowledgeable on epilepsy?
2. What attitude do the nurses of Asutifi North District Health Directorate have towards PWE?
3. What are the practices about epilepsy in the clinics of the Asutifi North District Health Directorate?

1.4 Objectives of the study

1.4.1 Main objective

The research was conducted to assess the knowledge, attitude and practice regarding epilepsy among nurses. It was also to demystify the disease by way of improving health educational programmes and finally to add to the existing literature on the condition.



1.4.2 Specific objectives

1. To determine the level of knowledge on epilepsy among the nurses in the Asutifi North District.
2. To recognize the attitude of nurses towards epilepsy in terms of transmission and behaviour.
3. To assess the practice towards epilepsy in the Asutifi North District.

1.5 Significance of the study

The significance of the study is as follows:

1. The findings would help do away with misperceptions surrounding epilepsy among individuals at the Asutifi North District which some of whom have mixed feelings about epilepsy.
2. The study outcomes would be useful for both Regional and District Health Directorates, especially those teaching in the health training institutions in the region and the district, curriculum planners for health training institutions, and also useful to health policy makers in the design of health education and promotion programmes on epilepsy.
3. The findings would add to the existing literature on the condition.

1.6 Delimitation of the study

The study focused on the health professionals in the district since most have mixed feelings about the condition. The respondents were nurses in the district. The scope of the research work, however, centered on the knowledge, attitude and practice regarding



epilepsy taking into consideration the social and cultural background of the respondents as far as the condition is concerned.

1.7 Operational definition of terms

Convulsion: - This is an involuntary contraction of the muscles producing contortion of the body and limbs. Because epileptic seizure typically includes convulsions, the term convulsion is sometimes used as a synonym for seizure.

Epileptic personality: - These are patients who are sly, aggressive, impulsive, and obsequious and many other unpleasant adjectives that were used to describe epileptics by doctors in the early days of the century.

Fit: - This is a sudden attack of convulsion or an epileptic seizure with and without jerking of the limbs.

Ictal: - A physiologic state or event such as a seizure.

Organic disorder: - This is a brain disease caused by a known pathological condition.

Pre-ictal: - The state immediately before seizure and it deals with the experience of an abnormal somatic, visceral, or psychic sensation called an aura.

Peri-ictal: - It encompasses pre-ictal, ictal and post-ictal.

Postictal: - The state shortly after a seizure.

Sacred disease: - This is a term to name epilepsy in the ancient times.

Seizure: - A synonym to convulsive fit, which is a symptom of epilepsy.



1.8 Conceptual framework

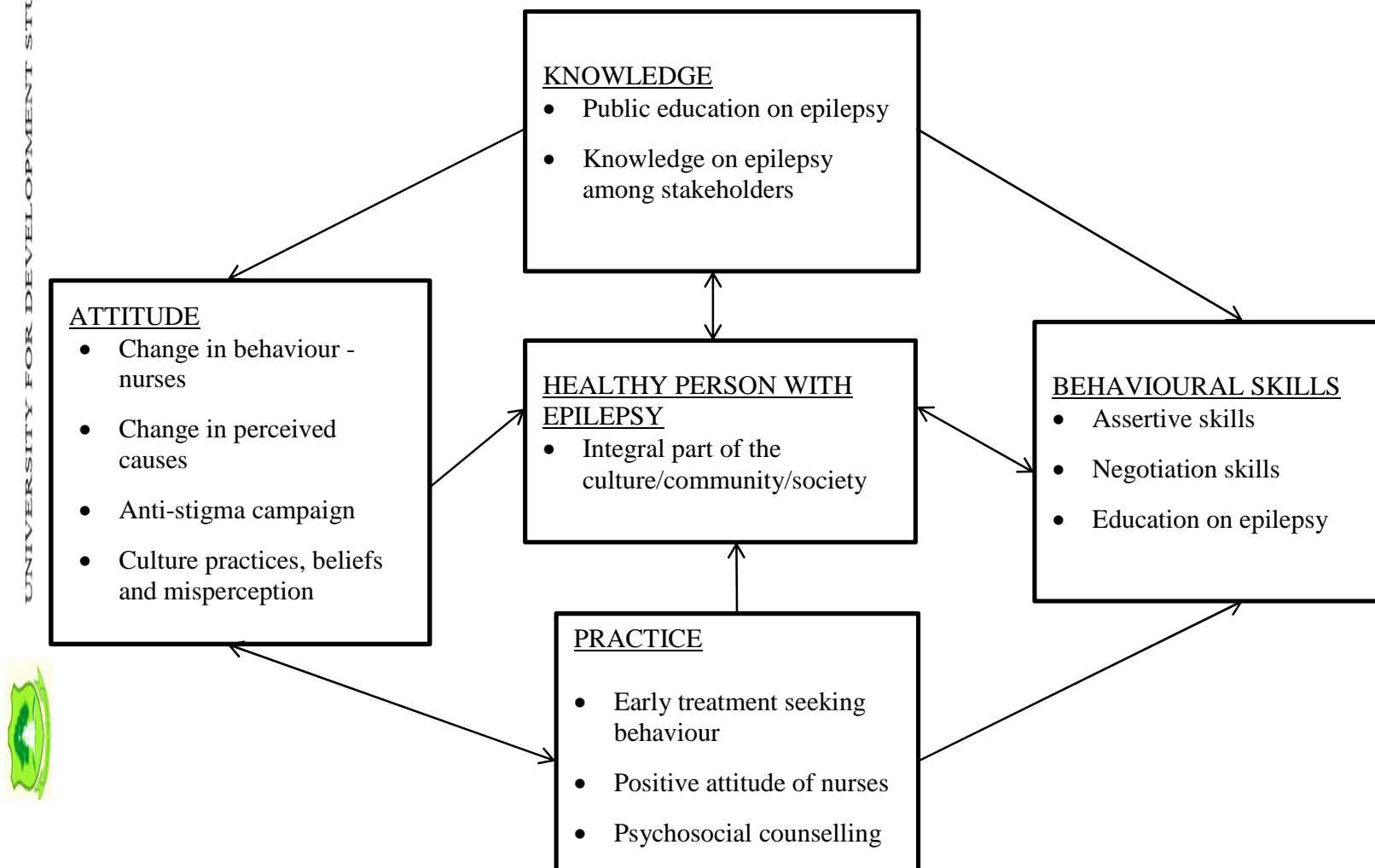


Figure 1: Conceptual framework on knowledge, attitude and practice regarding epilepsy (Source: Author Construction, 2016)

The conceptual framework indicated that when much awareness is created through public education and involvement of relevant stakeholders (such as health care providers, including the nurses), this would increase knowledge of the disorder; decrease cultural practices, beliefs and misperception about the disorder, and in tend leads to change in behaviours by nurses towards PWE, thereby increasing good attitude towards the disorder. This would result in reducing stigma and discrimination against PWE, leading to improvement of health status of the person through assertive training and other behavioural skills. This would in the end lead to full integration into the society of the person and finally leads to healthy living of the person with epilepsy.

1.9 Organization of the study

This study was organized into six chapters. The preceding write-up to this point presents Chapter One that dealt with the introduction to the study to its significance to the health education and training on the condition. Chapter Two concerned itself with the review of related literature gleaned from the theoretical and empirical views of researchers on epilepsy. Chapter Three explained and discusses how the study will be conducted covering the research design, population, sample and sampling procedure, instrument, data collection and data analysis procedure.

Chapter Four contained results of the study, indicating limitations of the methodology. Discussion of the results and drawing on the relationship between the interpretations and the literature review was captured in Chapter Five. A summary of the study including the key findings, conclusion, recommendations and suggestions for further research was presented in Chapter Six.



CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Overview

This chapter consists of a review of research and other related literature that is relevant to the questions of the study. It looked at some of the theoretical perspectives surrounding cause and psychosocial issues in epilepsy. The following research headings were used to guide the literature review:

1. Review of theoretical perspectives of the study
2. Knowledge on epilepsy
3. Attitude towards PWE.
4. Practices on epilepsy.

2.1 Review of theoretical perspectives of the study

Several theories have been used to explain attitudes of people towards epilepsy and individuals living with epilepsy and their associated behaviours after the attack. This study looked at the spiritual and the biopsychosocial models.

2.1.1 Spiritual model and epilepsy

The first and oldest explanatory system for mental illness is spiritual. From a cultural and traditional spiritual perspective, consciousness is seen as resulting from or deeply connected to some supernatural force. Usually, there is a religious narrative that explains that there are good and bad forces in the world, and that suffering is a function of either being possessed by the bad, or through the idea that the afflicted have fallen out of favor with the good. This generally occurs because of sin or related concept of immoral



behavior that leads to some form of badness or contamination (Sengar, 2012). From the researcher's perspective, PWE are said to be suffering from the condition as a result of curse, witchcraft, spiritually possessed or have bad blood among many other causes. In view of this PWE tend to seek cure and healing by visiting prayer camps, fetish priests, taking herbal concoctions, and some are asked to make animal sacrifices to atone for their sins.

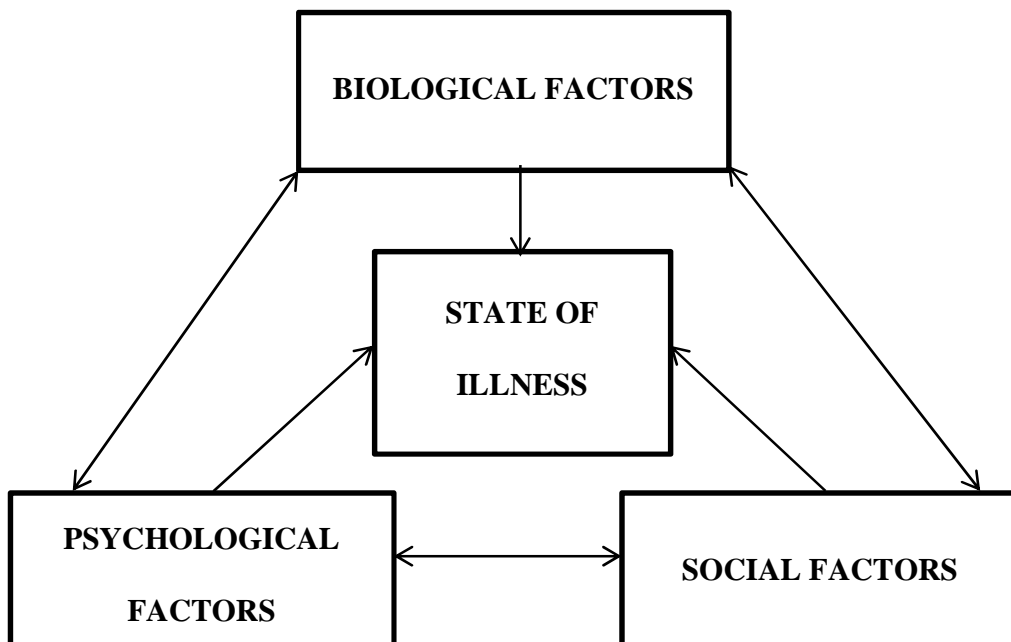
2.1.2 Biopsychosocial model and epilepsy

The biopsychosocial model is a broad view that attributes disease outcome to the intricate, variable interaction of biological factors (genetic, biochemical, etc.), psychological factors (mood, personality, behavior, etc.), and social factors (cultural, familial, socioeconomic, medical, etc.) (Santrock, 2007; Wikipedia, 2017). The biopsychosocial model counters the biomedical model, which attributes disease to roughly only biological factors, such as viruses, genes, or somatic abnormalities (Wikipedia, 2017). This view was supported by Bevers, Watts, Kishino, and Gatchel (2016) who published that the biomedical model explains illness based on somatic processes within the body. According to them, this view often assumes that psychological and social processes are largely irrelevant to biological illnesses and focuses instead on mainly biochemical imbalances and neurophysiological abnormalities. More so, Dogar (2007) asserted that the biopsychological model provides a conceptual framework for dealing with disparate information and it serves as a reminder that there may be important issues beyond purely biological.

In 1977 psychiatrist, George L. Engel, called for "the need for a new medical model" (Wikipedia, 2017). In Dogar's (2007) submission, Dr. Engel stressed an integrated



approach to human behaviour and disease, and that the biopsychosocial model is a response to medicine's increasingly narrow focus on spectacular advances and other basic biological sciences of medicine, which he labelled "Biopsychosocial Model". Dogar (2007) affirms Engel view that biological, psychological and social factors influence the prevention, causes, presentation, management and outcome of the disease, and that each of these factors continuously interact with the others and together they constitute the unique state we call illness.



(Source: Author construction, 2017)

Figure 2: Biopsychosocial model (modified)

The biopsychosocial model has three parts interacting with one another: Its biological component seeks to understand how the cause of the illness stems from the functioning of the individual's body (Wikipedia, 2017). As Dogar (2007) emphasized, the biological system deals with the anatomical, structural and molecular substrate of disease and the



effects on the patient's biological functioning. Its psychological component, as indicated in the free encyclopedia of Wikipedia (2017), looks for potential psychological causes for a health problem such as lack of self-control, emotional turmoil, and negative thinking. This in part was supported by Dogar (2007) who reiterated that the psychological system deals with effects of psychodynamic factors like motivation and personality on the experience of and reaction to illness. Its social part investigates how different social factors such as socioeconomic status, culture, technology, and religion can influence health (Wikipedia – free encyclopedia, 2017). It is also in part how the environment and the family influence the expression and expression of illness (Dogar, 2007). The biopsychosocial model presumes that it is important to handle the three parts together as a growing body of empirical literature suggests that patient perceptions of health and threat of disease as well as barriers in a patient's social or cultural environment appear to influence the likelihood that a patient will engage in health-promoting or treatment behaviors, such as medication taking, proper diet or nutrition, and engaging in physical activity.

As seen from the Wikipedia's free encyclopedia (2017), psychosocial factors can cause a biological effect by predisposing the patient to risk factors. For example, clinical depression by itself may not cause liver problems, but a depressed person may be more likely to have alcohol problems and thus liver damage. Perhaps, it is that increased risk-taking that leads to an increased likelihood of disease. This point was buttressed by Moselhy (2011) who said that to be epileptic is to be stressed and stress can influence the incidence of fits. Under stress many people develop anxiety symptoms which may be seen as a fight or flight reaction, some become depressed, and others show obsessive



ritualistic behavior. There are those who develop temporary psychotic states or acute conversion (hysterical) reactions which effectively isolate them from the stressful situation. Moselhy (2011) further indicated that the diagnosis of epilepsy can result in many psychological difficulties, and that grief at the realization of being disabled goes through stages of shock, anxiety, bargaining and denial, mourning and depression, internalized anger, externalized anger, acknowledgement and finally acceptance and adjustment.

In addition to the above assertion, Dogar (2007) stressed that though psychological and social variables are unquestionably important in medicine, their importance varies depending on the person and his or her medical circumstances; chronic conditions like hypertension or diabetes are affected by multiple aspects of personality and the social environment. Moselhy (2011) affirmed the agitation by looking at social effects of being epileptic and indicated that to be epileptic means being exposed to the fear of having attacks, being at a disadvantage in terms of work and personal relationships, being open to prejudice, this exists both in the lay public and in the medical and nursing professionals. Unpredictability in connection with epilepsy is a source of fear and insecurity, giving the patient a constant feeling of being under threat. Fear of social exposure of fits and feelings of disgrace often lead to social isolation. Consequently, the psychosocial aspects of epilepsy include a high rate of psychotic reactions, mood disorders, and suicide. Individuals with epilepsy experience a sense of shame, guilt, low self-esteem, anxiety, and pessimism. It is therefore important to make behavioural and psychosocial adjustments with epileptic patients to control seizure and improve and attain higher quality of life by sticking to medication regimen, having adequate sleep, good



nutrition and reducing stress (Hosseini, Sharif, Ahmadi, & Zare, 2016). So in the case of epilepsy, a weak personal constitution, lack of social support and stigma, and the lack of motivation to seek medical help would compound the patient's illness leading to chronicity of the disease. In conclusion, Dogar (2007) posited that the biopsychosocial model should be incorporated into the education and practice of all branches of the health sciences fraternity, including public education on epilepsy.

2.2 Knowledge on epilepsy

Epilepsy is one of the world's oldest known brain disorders among several medical conditions (Al-Adawi, Al-Maskari, Martin, Al-Naamani, Al-Riyamy, & Al-Hussaini, 2000; Epilepsy Foundation, 2017). Al-Adawi and colleagues (2000) proclaimed that the word 'epilepsy' is derived from a Greek word meaning "a condition of being overcome, seized, or attacked." The disorder was mentioned more than 2000 years ago and references to it can be found in ancient papyri and Vedic texts, the Bible and the tradition of Prophet Mohammed. This disorder was described as the 'falling sickness' (Al-Adawi, et al., 2000, page 18). Because there is public fear and misunderstanding about the disorder, it makes many people unwilling to talk about it. The unwillingness leads to lives lived in the shadows, discrimination in workplace and communities, and a lack of funding for new therapies research. For many people living with epilepsy, the misconceptions and discrimination can be more difficult to overcome than seizures themselves (Epilepsy Foundation, 2017). Epilepsy, therefore, is the most common non-infectious neurologic disease in developing African countries (Ekeh & Ekrikpo, 2015; Shafer & Sirven, 2013).



By definition Epilepsy is a neurological disorder marked by sudden recurrent episodes of sensory disturbance, loss of consciousness, or convulsions, associated with abnormal electrical activity in the brain (Online: Ultimatefmonline.com, 2017). As posited by Teferi and Shewangizaw (2015), a seizure is a transient disturbance of the cerebral function secondary to abnormal paroxysms in the brain, which results in a sudden excessive disorderly discharge of the cerebral neurons. They argued that the discharge results in almost instantaneous disturbance of sensation, loss of consciousness or psychic function, convulsive movements, or combinations of these (p. 1239). Fisher (2014) in support of the argument contended that epilepsy is a disease characterized by an enduring predisposition to generate epileptic seizures and by the neurobiological, cognitive, psychological, and social consequences of this condition. By translation, a seizure is an event and epilepsy is the disease involving recurrent unprovoked seizures (paragraph 1).

The above definitions were created in a document generated by a task force of the International League Against Epilepsy (ILAE) in 2005. The definitions were conceptual (theoretical) and not sufficient detailed to indicate in individual cases whether a person did or did not have epilepsy (Fisher, 2014). Therefore, the ILAE commissioned a second task force to develop a practical (operational) definition of epilepsy, designed for use by doctors and patients. The results of several years of deliberations on this issue have now been published (Fisher et al., 2014) and adopted as a position of the ILAE. Hence, a commonly used definition of epilepsy hitherto has been two unprovoked seizures more than 24 hours apart. This definition has many positive features, but also a few limitations. This definition does not allow the possibility of “outgrowing” epilepsy. Inclusion of the word “provoked” seems to imply that people who have photosensitive seizures provoked



by flashing lights or patterns do not have epilepsy; whereas, most people think that they do. Some individuals who have had only one unprovoked seizure have other risk factors that make it very likely that they will have another seizure. Many clinicians consider and treat such individuals as though they have epilepsy after one seizure. Finally, some people can have what is called an epilepsy syndrome and these individuals should meet the definition for having epilepsy even after just one seizure.

Fisher and colleagues (2014) and Krauss (2014) emphasized that a person is considered to have epilepsy if they meet any of the following conditions: (1) At least two unprovoked (or reflex) seizures occurring greater than 24 hours apart; (2) One unprovoked (or reflex) seizure and a probability of further seizures similar to the general recurrence risk (at least 60%) after two unprovoked seizures, occurring over the next 10 years; (3) Diagnosis of an epilepsy syndrome.

Item 1 of the revised definition is the same as the old definition of epilepsy. Item 2 allows a condition to be considered epilepsy after one seizure if there is a high risk of having another seizure. Often, the risk will not precisely be known and so the old definition will be employed, i.e., waiting for a second seizure before diagnosing epilepsy. Item 3 refers to epilepsy syndromes such as benign epilepsy with central-temporal spikes, previously known as benign rolandic epilepsy, which is usually outgrown by age 16 and always by age 21. If a person is past the age of the syndrome, then epilepsy is resolved. If a person has been seizure-free for at least 10 years with the most recent 5 years off all anti-seizure medications, then their epilepsy also may be considered resolved. Being resolved does not guarantee that epilepsy will not return, but it means the chances are small and the



person has a right to consider that he or she is free from epilepsy. This is a big potential benefit of the new definition.

In the above definition, epilepsy is now known to be a disease, rather than a disorder. This was a decision of the Executive Committees of the ILAE and the International Bureau for Epilepsy. Even though epilepsy is a heterogeneous condition, so is cancer or heart disease, and those are called diseases. The word “disease” better connotes the seriousness of epilepsy to the public (Fisher, 2014).

2.2.1 Perceived causes of epilepsy

In Africa as diverse the continent is with different cultural backgrounds and traditional beliefs, people harbour these beliefs pertaining to epilepsy and its causes and treatments. Illingworth, Watson, and Ring (2014) in introducing their study on “Why do seizures occur when they do?” commented that environmental, physical, or emotional factors increase or decrease the likelihood of seizure occurrence. They stated that stress is the most commonly reported seizure precipitant in a number of surveys of people with epilepsy, with tiredness and sleep deprivation also commonly reported. Further data from Verma and Vankar (2016) study indicated that 96.8 percent post-intervention agreed that epilepsy is caused by stress, and pre-intervention reported 24.5 percent as disagreeing on that issue. Illingworth and others (2014) stressed menstrual status and time of day is associated with altered likelihood of seizure occurrence, in addition to precipitants for the so-called ‘reflexive epilepsies’, such as photo stimulation. Nyame and Biritwum (1997) did a cross sectional survey among Government workers and the general public in Accra, Ghana, 172 (45.3%) out of the 380 respondents did not know the cause of epilepsy. Out of the 358 responses to the cause of epilepsy, 114 (31.8%) said it was inherited disease,



100 (27.9%) said it was due to witchcraft/juju or spiritual. Those who answered “don’t know” regarding knowledge about epilepsy were mostly the young, the lower educational status and the single (not married) respondents. A similar study conducted on beliefs on epilepsy in Northern Ghana highlighted that the most interesting perceived cause of seizures in males is harbouring anal worms, and spirituality a strong notion as a perceived cause. Besides, there is the belief that spells of epilepsy are cast on women as a form of punishment when they engage in adultery (Adjei et al., 2013).

In their study about the knowledge, attitude and beliefs about epilepsy among adults in Northern Nigerian Urban Community, Kabir, Iliyasu, Abubakar, Kabir, and Farinyara (2005), reported in *Annals of African Medicine* that out of the 200 adult respondents at Gyadi Gyadi quarters of Kano metropolis, 19.9 percent of the respondents identified the cause of epilepsy as heredity, followed by brain injury (19.2%), possession of evil spirits (16.3%) and brain infection (11.7%). According to them, 25.2 percent did not know the cause of epilepsy, and that birth trauma and witchcraft were uncommon responses in their study. Rwiza and colleagues (1993) also performed a study among Tanzanian rural inhabitants to identify their knowledge, attitude, and practice toward epilepsy. Out of the 3,256 heads of household respondents (mean age 40.2 years, range 15-90 years; Male/Female ratio 1:1) interviewed, 67.7 percent said they did not know the cause of epilepsy; 33.3 percent mentioned various causes including heredity, witchcraft, infection of the spinal cord, hernia, insects in the stomach and casting of evil spells on the individual. A study done by Millogo and others (2004) on Epilepsy and traditional medicine in Bobo-Dioulasso (Burkina Faso) answered that out of the 65 traditional healers chosen at random, 40 percent responded that hereditary is the cause of epilepsy,



15 percent of the healers think that the problem is localized in the head of a person, and 7.8 percent think that they have worms in their head. Ekeh and Ekrikpo (2015) asked medical students in Uyo, Southern Nigeria about their knowledge, attitude, and perception towards epilepsy and they came out with this result: on the etiology of epilepsy, 18 (14.88%) of the basic students and six (5.41%) of the clinical students were positive that epilepsy was caused by evil spirits. Eleven (9.09%) of the basic students compared to six (5.41%) of the clinical students believe that epilepsy was caused by witches. Ten of the basic students as against only three (2.70%) of the clinical students identified palm oil as a cause. In relation to trauma as the cause of epilepsy, only 54 (44.63%) of the preclinical students were in the affirmative as against a whopping 92 (82.88%) of the clinical students. The result further added that a large number of clinical students 95 (85.59%) know that birth injuries can cause epilepsy as against 54 (47.11%) of the basic students. Only 44 (36.36%) of the preclinical students were aware that infections can cause epilepsy as against 98 (88.29%) of the clinical students. On brain tumours, 98 (88.29%) of the clinical students were aware that brain tumours can cause epilepsy in comparison with 87 (71.90%) of the basic students.

When people with epilepsy were asked about their knowledge on the cause of their condition, Kassie, Kebede, and Duguma (2014) reported that 58 (32.2%) of the respondents said, “we don’t know the cause of epilepsy,” 46 (25.5%) respondents correctly said that epilepsy was caused by a brain damage or disease, and 12 (6.6%) believed that epilepsy is caused by evil spirits. Also, 44 (24.4%) of the respondents said that the cause of epilepsy was from the others: Like from God, eight (4.4%) of the respondents said that it was hereditary, four (2.2%) of them believe that it is a



punishment of sins. Besides, when Masoudnia (2009) in his study among Iranian ethnic groups asked his respondents about their opinions about causes of epilepsy, the results were significant regarding their beliefs about the causes of epilepsy. Causes such as brain injury, heredity disease, divine punishment, head injury, blood disorder and malnutrition ($p < 0.001$) and birth defect ($p < 0.01$) were reported.

In a study done on epilepsy in poor regions of the world, Newton and Garcia (2012) indicated that the most common infections associated with seizure disorders include neurocysticercosis, falciparum malaria, meningitis, and encephalitis. More so, head injury is a common cause of epilepsy worldwide caused by road traffic accidents, falls, and violent attacks including warfare. Notwithstanding, perinatal brain damage increases the risk of epilepsy but can be prevented with better obstetric care. An additional contributing factor to increased epilepsy numbers in poorly resourced countries is inadequate management of childhood seizures. An absence of appropriate emergency treatment to stop prolonged febrile and acute symptomatic seizures leads to status epilepticus, which is associated with the development of epilepsy. Subsequently, not treating epilepsy can promote epileptogenesis. Newton and Garcia (2012) further mentioned that malnutrition is associated with epilepsy. Micronutrient deficiencies are associated with seizures. Therefore malnutrition is a mark indicating poverty and a consequence of neglect in people with epilepsy. However, they were quick to state that a causal relation between malnutrition and poverty has not been established in people with epilepsy (pp. 1194-95).

Scott (1969) reported that in about half of the cases of epilepsy the cause is unknown. This is known as idiopathic epilepsy. This is so when no definite abnormality of the brain or disorder of the bodily system can be found and the site of origin of the fits in this



condition cannot be determined. Li and Schoenberg (1987), in their carefully designed study in China, found that the following were significant risk factors for idiopathic epilepsy: premature or difficult birth, maternal disease during pregnancy, febrile convulsions, family history for epilepsy, and maternal age above 30. In Nigeria, the putative risk factors for epilepsy were found to be febrile convulsions, malnutrition, maternal alcohol consumption, and lack of immunization (Ogunniya, Osuntokun, Bademosi, Adeuja, & Schoenberg, 1987). A similar study on risk of febrile seizures in childhood in relation to prenatal maternal cigarette smoking and alcohol intake identified maternal cigarette smoking and alcohol intake during pregnancy were associated with the risk of a febrile seizure in the child. The study showed that prenatal maternal cigarette smoking was associated with a two-fold increase in the risk of a simple febrile seizure (95% confidence interval 1.2–3.4). The findings further indicated that prenatal maternal alcohol intake was also associated with a two-fold increase in the risk of a complex febrile seizure (95% confidence interval 1.3–3.8). These results suggest that curtailing smoking and alcohol consumption during pregnancy may be an effective means of preventing childhood febrile seizures (Cassano, Koepsell, & Farewell, 1990). As found in their abstract, Vestergaard, Wisborg, Henriksen, Secher, Østergaard, and Olsen (2005) presented that they found a slightly increased risk for febrile seizures in children who were exposed to 10 or more cigarettes per day in their Aarhus Birth Cohort. However, they were quick to claim that they found no association between maternal alcohol and coffee consumption and the risk for febrile seizures, and concluded that their data suggest that prenatal exposure to low to moderate levels of alcohol and coffee has no impact on the risk for febrile seizures, whereas a modest smoking effect cannot be ruled out. In



another vein, Bell (2009) gave an account by indicating that sleep deprivation on seizures has been well documented and that 64.2 percent of those with fetal alcohol syndrome disorder (FASD) experienced sleeping problems. Hence, sleep deprivation has long been recognized as a precipitating factor for seizures.

Ajibade, Fabiyi, Ajao, Olabisi, and Akinpelu (2016) cited in their publication that in Uganda, epilepsy is thought to be a result of a lizard spinning around in circles in the head disturbing the brain causing dizziness, usually followed by a seizure. Ajibade and colleagues (2016) further contended that in Malawi epilepsy is thought to be due to an insect moving inside the stomach, and in Swaziland epilepsy is thought to be caused by sorcery, which sends evil animals or spirits into the body, causing convulsion. However, epilepsy that is secondary to a parasitic infestation of the brain is a disorder altogether different from genetically determined epilepsies (Almeida-Filho, et al., 2001).

It is worth noting that when someone has seizure it does not necessarily mean that the person has epilepsy, though. Certain things can sometimes trigger seizures in people with epilepsy. These include: Noise, Flashing or bright lights; A lack of sleep; Exercise, Overstimulation (like staring at a computer screen or playing video games for too long); Certain medications; and Hyperventilation (Goodman, 2004; Shafer, 2017). In addition, seizures can be triggered in anyone under certain conditions, such as life-threatening dehydration or high temperature. But when a person experiences repeated seizures for no obvious reason, that person is said to have epilepsy (Goodman, 2004). In view of this epilepsy had nothing to do with witchcraft and spirits but comes about as a result of physical condition of the brain (GHS, 2015).



2.2.2 Perceived manifestations of epilepsy

Epilepsy manifests with several types of seizures, differing in age of onset, response to treatment, prognosis, electroencephalographic correlates, and risk factors (Almeida-Filho et al., 2001; Cruz, Bossano, & Cruz, 1991). Most people in developing countries, such as Ghana – both literate and illiterate – have strong beliefs about the manifestations of epilepsy as caused by evil spells cast on the individual or by way of witchcraft or juju. Sahni (2002) came to the realization that in Cameroun, the term “epilepsy” also refers to saturation of the foams in the stomach which overflow and rise to the head, resulting in a seizure. But in Tanzania, out of 3,256 heads of household respondents, 32.9 percent said they had never seen a seizure (Rwiza, et al., 1993). Kabir and colleagues (2005) summed up by saying the most common symptoms proffered by most of their respondents in their study as manifestations of epilepsy include convulsion (39.0%), falling down (36.0%), rolling of eyes (11.3%), foaming of mouth (10.3%), urination (2.2%), and biting of tongue (1.4%). Millogo and colleagues (2004) per their study in Burkina Faso reiterated 31 percent of the traditional healers who took part in their study diagnosed epilepsy if there is a combination of ‘convulsions, sudden fall, dribbling and amnesia.’ Another 15 percent require a combination of ‘convulsions, amnesia and dribbling’, the remaining 54 percent make the diagnosis based on one symptom or various combinations of two symptoms of ‘grand mal’ (generalized tonic clonic) seizures and most claim they have a treatment for it.

2.2.3 Perceived ways of transmission of epilepsy

Surveys in developing countries with different cultures reveal common beliefs, for example, that epilepsy is a contagious illness or a kind of mental retardation (Fernandes,



Cabral, Araujo, Noronha, & Li, 2005). Although a lot of misconceptions about epilepsy exist, Nyame and Biritwum (1997) reported that epilepsy can be spread by contact and that epileptics must be isolated or avoided. This assertion was supported by Kassie and associates (2014) who indicated in their study among people with epilepsy that four (2.2%) of their respondents admitted that epilepsy is transmitted through contacts with epileptic patients. To buttress the assertion, Millogo and colleagues (2004) cited that 44 percent of the traditional practitioners in their study considered epilepsy to be contagious. A similar study conducted among 260 teachers at Bobo-Dioulasso by Millogo and Siranyan (March, 2004) indicated that some teachers still thought that epilepsy was contagious or hereditary, and 15.4 percent objected to having epileptic children in their classes. From Adamolekun (1997) and Andermann (1999), a common problem in Nigeria is that epilepsy is thought to be contagious and that belief is even popular among medical school students. In support of this assertion, Ekeh and Ekrikpo (2015) reported that as part of the sociocultural belief many people in Africa believe epilepsy to be contagious. Among the medical students studied, 30 (24.79%) basic and 11 (9.91%) clinical students respectively believed that epilepsy is transmitted by saliva; 46 (38.02%) basic and six (5.41%) clinical students affirmed blood as a means of spread of the disease; urine was made up of 10 (8.26%) basic and six (5.41%) clinical students; faeces/flatus six (4.96%) basic and four (3.60%) clinical students respectively during a convulsive episode or at all times. This they indicated results in isolation and unwillingness of witnesses to touch and protect the patient from injury during a seizure. They stressed further that epilepsy is also believed to be transferable from one person to another by various routes. As a result it leads to what they termed “courtesy stigma” where relatives, friends, and companions of



persons with epilepsy are stigmatized as well. More so, Mustapha, Odu, and Akande (2013) cited a report where about 30.5 percent of the respondents in that study believed that epilepsy could be contracted through saliva, 27.7 percent thought it was synonymous with possession with evil spirits, while 10 percent equated epilepsy with insanity. It also reported that nearly five percent nursing population believed that epilepsy is contagious in a study done by Sureka, Agarwal, Chaturvedi, Yadav, and Kumar (2015).

Rwiza and colleagues (1993) in their study in Tanzania came out that 40.6 percent of their respondents believed epilepsy was infectious through physical contact, flatus (fart), breath, excretions, and sharing food. Kabir and colleagues (2005) confirmed this assertion by saying that persons with epilepsy are shunned and discriminated against in education, employment and marriage in Africa because epilepsy is seen as a highly contagious and shameful disease in the eyes of the public. These observations came from many studies carried out in Africa, including Nigeria and Liberia as they contended. However, in a study published in 2002, 22 percent of young Americans confessed to not knowing whether epilepsy was a contagious condition (Fernandes, Snape, Beran, & Jacoby, 2011). Besides, none of the students in a Brazilian study believed that epilepsy is a contagious disease (Falavigna et al., 2009). Accordingly there is no clinical evidence to suggest that epilepsy is contagious. It can neither be spread by physical contact nor saliva (foaming on the patient's mouth). Besides, it cannot be transmitted by evil insects, described as cockroaches, and other rodents. One cannot be infected with epilepsy from someone who has it (Goodman, 2004).



2.3 Attitude towards people with epilepsy

Though attitude is a complex and abstract construct (Al-Hashemi et al., 2016), people suffering from epilepsy have been discriminated against in several ways (Ghanean, Nojomi, & Jacobsson, 2013). Report from other studies have shown that people with less awareness and knowledge about epilepsy tend to have negative attitudes toward the disease and misperceptions such as epilepsy being a form of insanity, untreatable, contagious, and hereditary or a form of mental retardation. Cultural beliefs, superstition, and lack of information about epilepsy have perpetuated such misconceptions in developing countries (Karimi, & Akbarian, 2016). However, the Koran clearly chastises that people suffering from different types of disorders should be treated with respect because their fate might be attributed to the will of Allah rather than personal weaknesses or sinful behaviour (Ghanean, Nojomi, & Jacobsson, 2013).

2.3.1 Nurses behaviour towards people with epilepsy

In sub-Saharan Africa, where there is extreme physician shortage, nurses and other clinical officers manage most cases of epilepsy (Chomba, Haworth, Atadzhanove, Mbewed, & Birbeck, 2007). Clinical nurses lack of knowledge and negative attitudes regarding epilepsy may affect the quality of health care for patients with epilepsy (Dayapoğlu, & Tan, 2016). When discussing their results on attitude on a study on knowledge, attitude and practice of epilepsy among nursing faculty and students in a tertiary care center in Rajasthan by Sureka and (2015), out of a total of 234 individuals who participated in the study, 23 being nursing faculty members and 211 being nursing students, majority of the faculty members (>60%) considered epilepsy as hindrance in life. They further indicated that around 14 percent of General Nursing and Midwifery



students and 38 percent of B.Sc. students considered that epileptics committed sins in the past life in contrast to faculty members who refuted the same. They added nearly 35 percent of the students believed that persons with epilepsy could not lead a happy married life. This they attributed to the belief that epilepsy is a hereditary and mental illness. They also reported that approximately 25 percent reported that people with epilepsy cannot work like others. Consequently, Falavigna and colleagues (2009) observed in their study on awareness and attitudes on epilepsy among undergraduate health care students in Southern Brazil that 26.4 percent of the university students correlated epilepsy with mental disease. This assertion was supported by a higher proportion of group 2 students who believed that patients with epilepsy usually have severe psychiatric disease (group 1=6.8%; group 2=18.3%; $p<0.001$). Notwithstanding, the majority of the students declared that they would offer a job (90.4%) and they would marry an epileptic (85.1%). They further indicated that an Italian university-based survey showed that 56 percent of the students think epilepsy limits a person's working capacity. In a similar study conducted on the nurses' knowledge and attitudes about epilepsy by Ahmed, Aly, and Shaaban (1994) reported that more than half of the nurses considered epilepsy as a mental illness, agreeing to the fact that epileptics must learn in special schools. This report was in sharp contrast to Chomba and colleagues (2007) who in their study in Zambia that stated more than 95 percent of health care workers reported a willingness to allow their own child to play with a child with epilepsy and indicated that children with epilepsy could attend school. They further stated that 75 percent of their respondents would allow their son or daughter to marry someone with epilepsy. But approximately 25 percent would not allow their child to marry someone with epilepsy and 20 percent thought



people with epilepsy should not marry or hold employment. Respondents indicated that people with epilepsy are feared and/or rejected by both their families (75%) and their community (88.8%). This is in sharp contrast to their earlier assertion. Notwithstanding, Vancini and associates (2012) reported in their study on knowledge about epilepsy among health professionals in São Paulo (Brazil) that out of all their respondents, the responses given by professionals on the questions related to the personal domain show that a majority (over 95%) reported having no fear of living with a person with epilepsy. While 84 percent and 85 percent of nurses and physicians would maintain a relationship with a person with epilepsy, only 61 percent of nutritionists would do the same.

Kabir and colleagues (2005) reported in the *Annals of African Medicine* that most people harboured positive feelings towards epileptics, chiefly in the form of tolerance and kindness. They indicated that in Nigeria 49 percent of their respondents were sympathetic towards the plight of the epileptic with females showing more inclination for sympathy compared to their male counterparts. The females, however, tend to be more fearful and suspicious and avoid the epileptic more than their male counterparts. Nyame and Biritwum (1997) in their study in Ghana also came out that in Ghana the traditional beliefs and attitudes about epilepsy are still held firmly by the adult working population and that the educational level of their respondents was positively related to the appropriateness of the responses viewing epileptics as not mentally sick persons.

Findings from Ajibade and colleagues (2016) study showed that there are major misconceptions about epilepsy which include: epilepsy cannot be cured, epilepsy is contagious, a person with epilepsy is not as smart as average people and does poorly in school, parent do not allow their child to participate in any activity at school, a person



with epilepsy is often rejected and feared during attack, a person with epilepsy should not married and bear children and majority agreed to have a divorce or separate spouse if diagnosed of epilepsy. To buttress this assertion, a study in South West Cameroon gave the results that about 33 percent of student nurses and 52 percent of laboratory assistants would object to their children associating with and marrying PWE. The study indicated that about 15.3 percent of the respondents believed that epilepsy is a form of insanity, and 10 percent thought epilepsy is contagious (Njamnshi et al., 2010).

Opposing Njamnshi and colleagues' (2010), Karimi and Akbarian (2016) in their study published that 68 respondents thought "epilepsy is not a form of mental illness," 66 (97.05%) believed people with epilepsy are not insane ($p=0.1$) with 57 (86.36%) of the respondents believing that persons with epilepsy can get opportunities of appropriate occupation ($p=0.017$). In support of this publication, Goel, Singh, Lal, and Singh (2013) reported in their study that (67.8%) of their respondents believed that persons with epilepsy were neither mad nor insane. However, Goel and colleagues (2013) contended that nearly half of their respondents believed that epilepsy is a hindrance to education, while nearly one-third felt that epilepsy interferes with employment (26.6%) and marriage (32.2%).

One study indicated that the divorce rate is higher in PWE and the main cause is that some couples do not disclose to their future partners before getting married (Ahmad, 2011). However, epilepsy does not appear to be a major stress factor in marriage as long as the spouse is knowledgeable about the condition. While marriages in which one partner is epileptic might at first seem to be especially vulnerable to stress and frequent dissolution, there is no evidence that this is true. In fact, the opposite appears to be the



case; such couples often exhibit a greater degree of mutual concern and support (Jones, 1983, pp.107-108).

In connection with epileptics' intellectual capabilities, there is evidence of association between epilepsy and specific learning disabilities (Lunardi, de Souza, Xikota, Walz & Lin, 2012). Literature review, again, pointed to the fact that a substantial minority of people with epilepsy have intellectual disabilities (ID) but most people with epilepsy do not have intellectual disabilities (Olotu, Shankar, & Bernal, n.d.). Amongst those with mild to moderate ID, lifetime epilepsy prevalence has been reported at between six and 15 percent. In those with severe ID epilepsy occurs in around 25 percent whilst in those with profound ID (IQ<20) epilepsy is reported in more than 50 percent. In some specific ID syndromes particularly high rates of epilepsy are reported (Ring, 2013). Report from Lunardi and colleagues (2012) cited only 42.7 percent of their respondents knew that the person with epilepsy may have learning problems when epilepsy therapy is not appropriate. But Karimi and Akbarian (2016) in their study published that 60 (88.23%) their respondents answered that persons with epilepsy can have university education.

Ellis and Cherney (2017) have published 12 famous faces of individuals with epilepsy who have excelled in their fields of endeavours. Among these persons are Lil Wayne (Rap superstar), Theodore Roosevelt (26th President of the United States of America), Dai Greene (British Olympic Athlete), Danny Glover (Academy Award-winning actor – “Lethal Weapon”), Jason Snelling (Former Atlanta Falcons running back – currently working with Epilepsy Foundation), Neil Young (Singer-songwriter – “Heavy Peace”). Others are Susan Boyle (The woman who made waves on “Britain’s Got Talent” with her lovely voice), Rick Harrison (His fans know him as the knowledgeable owner of the Gold



and Silver Pawn Shop and the star of “Pawn Stars”), Prince (the legendary performer and Grammy Award-winner), Chanda Gunn (Goalie for the 2006 women’s U.S. Olympic ice hockey team), Alan Faneca (Former guard for three NFL teams and a winner of one Super Bowl), and Hugo Weaving (Australian actor best known for his roles in “The Matrix and “The Lord of the Rings”). From this study researcher’s perspective, if these individuals were deficient in their mental capabilities, they would not have excelled to this level of their careers.

2.4 Practices on epilepsy

Nursing care for patients with epilepsy is very important because such patients are exposed to many risks and complications. Nurses take special care to decrease the risk. The most important nursing intervention is to keep up an adequate airway, breathing and circulation during seizures and to prevent any injury of the patients with epilepsy. Also, an oral airway suction apparatus should be available at bedside at all times (Shehata, El-Lateef, Ghanem, & El-Masry, 2015) to reduce danger while optimizing results in the management of the patient (Buelow, Privitera, Levisohn, & Barkley, 2009).

2.4.1 Care given to PWE during fit attacks

There is not much one can do to stop a seizure once it starts. But anyone can help protect a person having seizure from harm during an attack. Some seizures are more dangerous than others, but most are not an emergency. If anyone wants to do something for the person, focus on keeping him/her safe (Wehrle, 2003). Therefore an important way to improve safety and quality of life for people with epilepsy is to make sure that nurses and



other professionals understand epilepsy and how to offer first aid. By training and clinical experience, nurses in our communities play a role in recognizing and managing seizures.

In connection with training received on either theoretical or clinical care on epilepsy, Chomba and colleagues (2007) giving an abstract of their study on health care workers in Zambia said that those who had received both didactic and bedside training ($p=0.02$) and more recent graduates ($p=0.007$) had greater knowledge. Greater knowledge was associated with more social tolerance ($p=0.005$). Health care workers were generally willing to provide care to this patient population. A similar study done by Verma and Vankar (2016) on didactic lecture on epilepsy for nursing students which was aimed at finding out the efficacy of educational program on epilepsy in nursing students by measuring the pre-and post-intervention knowledge on the condition indicated that 74.5 percent of the students disagreed on the post-intervention that normal people should never have seizure in their life, whilst 39.4 percent agreed on the pre-intervention on the same subject. When it came to the question of “epilepsy persons cannot work like normal people”, the pre-intervention recorded 27.7 percent agreed to that assertion, whilst 73.45 percent disagreed on post-intervention. Cervasio and Fatata-Hall (2013) emphasized that nurses, as health care providers in various environments, must be both theoretically and clinically competent to care for vulnerable population.

In Nigeria many residents regard epilepsy as a sign of visitation by the devil or evil spirits and can therefore not be treated by modern medicine. It is also believed to be infectious and transmitted through the saliva of a patient having an attack. Many therefore, may run away instead of giving a first aid to an epilepsy patient having a seizure (Olubunmi, 2009). In Ghana, however, the major obstacles faced by the country in the care of PWE



include inadequate supplies, poor access to anti-epilepsy medications, lack of primary health workers, appropriately trained to diagnose and treat epilepsy, social stigma, misinformation, traditional beliefs and limited opportunities for specialty training in neurology to boost specialist numbers (Ghana News Agency [GNA], 2015). To improve knowledge and skills in managing epilepsy, it is imperative to ensure that frontline health care providers such as nurses receive both theoretical and clinical training in epilepsy.

Sureka and colleagues (2015) regarding first aid on seeing the epileptic attack reported that 4.3 percent of nursing faculty and around 15 percent of students chose to put shoe/onion on the face and also put water in his/her mouth. In line with this view Chilopora, Kayange, Nyirenda and Newman (2001) in the Malawian study on attitudes towards epilepsy documented that 10 nurses in their study helped people with epilepsy during the attack in various ways; in five cases a soft pad or hard object was placed between the teeth, a clear airway was ensured in six and tight clothing was loosened in two cases. In view of this Nursing File (2010) has summed up the interventions necessary to be given PWE when seizure subsides such as: Administer anticonvulsant therapy as prescribed; Protect the patient from injury; Monitor the patient's vital signs continuously till normal; If the patient is taking anti-seizure medications, constantly monitor for toxic signs and symptoms such as slurred speech, ataxia, lethargy, and dizziness; Monitor the patient's compliance with anticonvulsant drug therapy; Teach the patient to take exact dose of medication at the times prescribed; and Encourage the patient to eat balanced, regular meals. The rests are: Advise the patient to be alert for odours (aura) that may trigger an attack; Limit or avoid alcohol intake; Encourage to have enough sleep to prevent attacks; and Reassure patient after the seizure subsides by telling him that he's all



right, orienting him to time and place, and informing that he's had a seizure. It is further explained that if seizure lasts for more than five minutes, or another seizure begins soon after the first, consider it as a medical emergency and call for an ambulance or seek immediate medical attention for the patient, and when seizure has finally subsided, orient the patient to time, place and persons, if confused (Choc Epilepsy Center, n.d.).

A study in Uttarakhand, India, revealed that 40.8 percent of the respondents said that they would put shoe or onion on nose of the patient with epilepsy to stop the fit, 23.2 percent indicated they would splash water over the face and 1.4 percent would make the person hold bunch of keys (Goel, Dhanai, Agarwal, Mehlotra, & Saxena, 2011). Maiga and colleagues (2014) consented to the above intervention by finding out that 7.5 percent and 21 percent of mothers who have a child with epilepsy and without epilepsy respectively would wet the patients' face with cool water. When 523 mothers were asked on their initial interventions against seizure in a study by Esegbe and associates (2015) perspectives of mothers on childhood epilepsy in Kaduna, Northern Nigeria, 18.2 percent said they would run away, 22.6 percent claimed that they would use traditional medication, 2.9 percent indicated applying onion squashed on the eyes, 36.9 percent responded they would sprinkle water on the face of the patient, and 42.1 percent were of the view that thrusting an object in the mouth of the patient is the option for them. In the same vein, a study done on epilepsy care in Zambia highlighted that the popular ingredients for epilepsy treatment as mentioned by both the traditional healers and hospital health care workers were products from animals, such as Bush-baby (*Galago moholi*), Bateleur eagle (*Terathopius ecaudatus*), and Sweet potato weevil (*Cylas formicarius*) (Baskind & Birbeck, 2005, pages 1123-1124). Similar findings from a study



on parents' knowledge and attitudes toward children with epilepsy revealed that up to 14 percent of parents unnecessarily sprinkling water on the face, shaking, or carrying the child around when seizure occurs (Zainy et al., 2013). However, Esegbe and colleagues (2015) reported that those with positive interventions in the community indicated they would rather call for help (35%), rush the child to the hospital (48%), and 40 percent said they would offer prayers.

The discovery of anticonvulsant drugs and increasing understanding of seizure disorders has allowed many patients with epilepsy today to enjoy family, recreational and employment opportunities that were not some years past. The health professional has two functions to play: one is to control the seizures; the second is to advise patients on how their condition may affect their lives (Jones, 1983). Since a patient's understanding of the disorder is related to his or her ability to cope with daily life, there is a need for more personal empowerment by way of education and counseling. This would enable patients to better deal with the various aspects and challenges they face with epilepsy (Coker, Bhargava, Fitzgerald, & Doherty, 2011). Coker and colleagues (2011) in support of the argument stated that patients should be encouraged to participate in exercise and sports with adequate safety measures implemented, such as trained personnel supervising swimming.

In 2015 the Saint George's University Hospitals published an article on advice for patients who have epilepsy and/or seizure and gave the following general safety precautions which include: Be careful in the kitchen when using hot pans. Do not use open fires; When ironing clothes, it is advisable to have someone around with you; Showers are safer than baths. Do not go for a swim on your own; It is safer not to climb



ladders. You may want to place a safety rail at the top of your stairs; You may wish to use safety corners to cover any sharp edges around the home; Ensure you stand well behind yellow lines when using public overground or underground trains, and Avoid machinery that does not cut out when dropped (hedge trimmers, for example).

To avoid recurrence of seizure for patients with a single unprovoked seizure, Ko (2018) published on Medscape website that it is better for these individuals to refrain from alcohol and not to deprive themselves of enough sleep. Adherence to drug regimen play a pivotal role in the management of epilepsy. It is incumbent on health care providers, especially nurses to educate their clients in this regard. Paschal, Hawley, Romain, and Ablah (2008) reported in a study that concluded that seizure frequency was unrelated to adherence, but that families with more stressors also adhered more closely to treatment in terms of clinical visits. Since seizure control is the most important aspect of patients' medication, clinicians should be able to improve both communication and adherence through the use of a variety of medication reminder strategies (Paschal, et al., 2008).

2.4.2 Preferred treatment of epilepsy

In line with whether epilepsy is treatable or not, approximately one-third of clinical nurses (36.5%) believed that epilepsy was incurable (Dayapoğlu, & Tan, 2016). This notion is strongly perpetuated by the statement that some epilepsy cases cannot be cured (Baskind & Birbeck, 2005). In a clinical research, Birbeck (2000) affirmed that notion citing 44 percent of parents whose children had febrile seizures believe the supernatural as the cause of the seizure and did not think that modern medications could treat the condition. Tidy (2015) authored in support of the claim saying epilepsy cannot be cured with medication arguing that about 3 in 10 people experienced seizures, despite



medication. However, Tidy (2015) was quick to state that with the right type and strength of medication, the majority of people with epilepsy would not have seizures with the reason that the medicines work by stabilizing the electrical activity of the brain, therefore needing to take medication every day to prevent seizures. In a similar vein to untreatability of epilepsy, Sharkawy, Newton and Hartley (2006) concluded that when seizures persist beyond a certain age, families and health care personnel at Kilifi (Kenya) placed child in the “sickness sphere,” meaning that the child is incurable and treatment attempts are futile. A similar view is held in Malawi when Chilopora and colleagues (2001) reported that people with epilepsy who have been burned in fire cannot be treated. However, in seeking treatment for epilepsy and its impact on households in rural district in Southern Malawi, Munthali, Braathen, Grut, Kamaleri, and Ingstad (2013) shockingly found out that it was a health worker who advised a participant in their study to seek traditional medicine for her son, citing the reason that treatment that persons with epilepsy get from the health facilities is quite effective as it reduces the fits but it does not take them away completely (p. 4).

Chilopora and colleagues (2001) indicated in their article that 79 percent of nurses are of the view that epilepsy can be controlled or cured in this case 25 percent of the nurses. Regarding the aim of treatment of epilepsy, Kassie and colleagues (2014) highlighted that 60 percent of their respondents claim that medications decrease the frequency of seizures, 36.6 percent opined that epilepsy could wholly be cured with medications while 3.3 percent declined that medications do nothing with epilepsy. Ekeh and Ekrikpo (2015) reported in their study that on the possibility of treatment of epilepsy, both basic (72.73%) and clinical (86.49%) medical students were of the view that epilepsy can be



treated. They share the view that the disease can be treated in the hospital as indicated by 68.60 percent of the basic medical students and 87.39 percent by the clinical students. Teferi and Shewangizaw (2015) discussed in their article that 40 percent of people felt that epilepsy can be cured.

In choosing treatment for epilepsy several factors come into play as many people still believe that epilepsy is supernatural or sacred and associate the disease with spirit possession, impurity, contagion, heredity, and madness. Since these aetiological notions are rooted in the spiritual model, PWE seek cure from traditional healers rather than seeking preventative or biomedical treatment (Mbuba, & Newton, 2009). According to Maiga and colleagues (2014), the traditional healer is the first person to be consulted a child has a seizure and this was reported by 63 percent of parents with a child with epilepsy in their study. As cited by Coleman, Lopy, and Walraven (2002), 74 percent of their respondents had attempted to find treatment from more than one source. In a study by Appiah-Poku, Laugharne, Mensah, Osei, and Burns (2004) on previous help sought by patients presenting to mental health services in Kumasi, Ghana, of the 39 patients with epilepsy, 31 percent had seen a pastor and 23 percent had seen a traditional healer in addition to seeking medical assistance. This assertion was affirmed by a study in Kilimanjaro Region, Tanzania that stated that nearly all PWE demonstrated pluralistic care-seeking behaviour by the use of prayers and consulting traditional healers alongside modern hospital care (Mushi et al., 2011). Subsequently, Karimi and Akbarian (2016) claimed in their study that 106 (92.2%) respondents believed that religious practices are not effective in improvement of epilepsy. In seeking care for epilepsy, Munthali and colleagues (2013) stated that people are forced to seek treatment from traditional healers



for general lack of medicines in the health facilities. This was evident from the claim that the doctor told the patient there were no medicines in the health facility for epilepsy, and patient had to go to a traditional healer who could not help either (page 4). A previous study related to the management of epilepsy showed that 73 percent of people believed that allopathy is a better option than *ayurveda* (25%). Two percent believed that holy treatment with worship is effective in treating epilepsy (Teferi, & Shewangizaw, 2015). Notwithstanding, Baskind and Birbeck (2005) reporting on epilepsy care in Zambia highlighted that both traditional healers and hospital health care workers support the products from animals that exhibit behaviours resembling convulsions or loss of consciousness be used in the managing epilepsy. On the blog of Instah Health and Wellness (2017), it was found that a study done at University of KwaZulu-Natal indicated that extracts of the fruit of the 'Prekese' (*Tetrapleura tetraplera*) plant in West Africa contains anticonvulsant properties. It is therefore helpful for epilepsy patients in the management and controlling the condition. The fruit extract has the ability to slow down the nervous system.

Winkler, Mayer, Ombay, Mathias, Schmutzhard, & Jilek-Aall (2010) published in their research paper that 44.3 percent of the interviewed people were convinced that epilepsy could be treated by traditional healing method; only 54.1 percent gave their opinion as to which healing method could help. They said the other 55.7 percent thought that traditional medicine had no positive influence on epilepsy. More so, Winkler and colleagues (2010) cited that 4.2 percent thought that treatment by herbalist may improve symptoms as well as eliminate the cause of epilepsy. This view was not strong enough as one person (0.6%) gave the support with the thought that the cause only could be treated



by a traditional herbalist, while 4.8 percent were convinced that symptoms from epilepsy could be alleviated by herbal medicine. Accompanying this revelation is the view that out of the 167 participants, 14.4 percent were convinced that Christian prayers could influence the cause and symptoms of epilepsy, and 19.8 percent thought that the cause of epilepsy only could be treated by prayers. Following this revelation were the views of patients (11.9%), relatives (11.3%), and neighbours (58.3%) who thought that prayers could help cure the symptoms and cause of epilepsy.

In conclusion, people turned to religiospiritual treatments in desperation for a cure, often under the influence of their families after the perceive failure of Western medicine. Such treatments are viewed as complementary rather than as an alternative to Western medication. However, younger people in particular express skepticism about the effectiveness of these traditional treatments (Ismail, Wright, Rhodes, & Small, 2005, p. 26).

2.4.3 Drugs used in managing epilepsy in facility

Though epilepsy is said to be one of the oldest recorded diseases in the world, throughout its history strange and varied methods of therapy have been employed. Medicaments, potions, ointments, amulets, enemas, exorcism, magic, spiritualism, magnetism, galvanism, dietary regimens, surgical and physical, and moral and behavioural therapies have all been employed in its management, yet none of these have provided the cure (Shorvon, Perucca & Engel, Jr., 2016). However, seizures can be controlled by inexpensive antiepileptic drugs (Newton & Garcia, 2012).

According to Shorvon and colleagues (2016) there are new drugs that are going through clinical trial development. Notwithstanding, some of the agents for epilepsy as classified



include: (1) Benzodiazepines (Clonazepam, Diazepam, Lorazepam, Midazolam, and Nitrazepam); (2) Barbiturates (Phenobarbital, Metharbital, and Primidone); and (3) Antiepileptic drugs (Carbamazepine, Ethosuximide, Phenytoin, and Sodium Valproate). From Ghana Essential Medicines List, anticonvulsants that are used in the management of seizure disorders include carbamazepine, diazepam, ethosuximide, magnesium sulphate, phenobarbital, phenytoin, primidone and sodium valproate (Ministry of Health, 2010).

Phenobarbital is effective in all forms of epilepsy except typical absences. Because of its low cost it is the most prescribed antiepileptic drug worldwide. In Cameroon, phenobarbital is used in 75 percent of cases, carbamazepine in 15 percent, and phenytoin in three percent; each is prescribed as monotherapy in 94 percent of cases. A study in Mali found that almost 60 percent of the people who took phenobarbital were free of seizures at the last follow-up (Ba-Diop, et al., 2014).

In conclusion, the cohesive source of support for seizure treatment is anticonvulsant medication. This is because up to seven in 10 (70%) people with epilepsy could have their seizures completely controlled with antiepileptic agents (Epilepsy Society, n.d.; Ko, 2018).



CHAPTER THREE

METHODOLOGY

3.0 Overview

This study sought to look at epilepsy at the Asutifi North District in the Brong Ahafo Region of Ghana. It demanded an open and in-depth approach that enabled participants (nurses) to answer for themselves about their experiences of epilepsy.

This chapter deals with the study area, research design, study population, study unit, sample size and sampling procedure, data source, study variables, research instrument for data collection, data collection procedure, and data analysis and presentation of results. The rests were training of research assistants and pre-testing, quality control, ethical considerations, and limitations of the study.

3.1 Study area

The research was conducted at Asutifi North District in the Brong Ahafo Region of Ghana.

3.1.1 Location and size

The Asutifi North District used to be part of old Asutifi District under LI 1485 of the erstwhile Provisional National Defence Council (PNDC) quest to deepen the decentralization process in 1988. In June 2012, the Asutifi South District was created leaving the mother District to stand separately as Asutifi North District under LI 2093 with Kenyasi still the District capital. The District is one of the Twenty-Seven (27)



Districts in Brong Ahafo Region and Two Hundred and Sixteen (216) in Ghana respectively.

The Asutifi North District is located between latitudes 6°40' and 7°15' North and Longitudes 2°15' and 2°45' West. It shares boundaries with Sunyani Municipal on the North, Tano North and South Districts on the North East, Dormaa East District to North West, Asutifi South District in the West, Asunafo North Municipal in the South West and Ahafo Ano North District (Ashanti Region) in the South East. With a total land surface area of 936 sq.km, the District is one of the smallest in the Brong Ahafo Region. There are a total of over 139 settlements in the District with major towns as Kenyasi I, Kenyasi II, Ntotroso, Wamahinso, Gyedu and Gambia II. The District capital Kenyasi, is about 50kilometres from Sunyani, the Regional capital of Brong Ahafo Region and 64 kilometres from Kumasi (Ministry of Local Government and Rural Development, 2013).

3.1.2 Population size, structure and composition

From the National Population and Housing Census of 2010, the district has a population of 59,386 with a growth rate of 2.3% per annum (Field survey: Asutifi Health Directorate, 2016). Though the district growth rate falls short of 0.2 percent of the national growth rate of 2.5 percent, the estimated population projection for 2017 would be 61,493. Males constitute 51.2 percent and females represent 49.8 percent. Nearly seventy (67.8%) percent of the population is rural. The district has a sex ratio of 105.0. The population of the district is youthful (49.8%) depicting a broad base population pyramid which tapers off with a small number of elderly persons (6.7%). The total age dependency ratio for the District is 77.8, the age dependency ratio for males is less (77.6)



than that of females (71.9). In Ghana, localities with a population of 5,000 or more are classified as urban (Ministry of Local Government and Rural Development, 2013).

3.1.3 Economic Activity Status

The District economy is mostly agrarian with most of them being peasant farmers who largely depend on rudimentary methods of farming. Cocoa, Coffee, Oil palm, and Cashew are the major cash crops in the District with plantain, cassava cocoyam and maize being the food crops.

About 72.9 percent of the population aged 15 years and older are economically active while 27.1 percent are economically not active. Of the economically active population, 93.5 percent are employed while 6.5 percent are unemployed. For those who are economically not active, a larger percentage of them are students (47.6%), 31.1% perform household duties and 3.8 percent are disabled or too sick to work. Six out of ten (67.3%) unemployed are seeking work for the first time.

There are a number of financial institutions in the District which basically help the citizenry to mobilize funds through savings and investment packages and also deal with their financial needs in times of difficulty by making loan facilities accessible. With the presence of these financial institutions, notably; EcoBank, Agricultural Development Bank (ADB), Tano Rural Bank, Asutifi Rural Bank, and Ahafo Community Bank, traders and tourists alike do not have to carry large sums of money when travelling to the District.

The operations of Newmont Gold Ghana in the district do not only provide employment but also offer persons who would like to know about gold exploration, the opportunity to visit the District.



The water log nature of the land is viable for the cultivation of rice and fish farming. Again, with the discovery of mineral deposits, especially gold in the District, investors in the mining industry frequent the district to explore for opportunities. Notwithstanding, the quarry waste from the mining activities provides an avenue for potential entrepreneurs to enter the quarry waste industry. By so doing, they acquire these wastes to further sell or use for construction work.

3.1.4 Health facilities

The district has eight health facilities distributed in the three sub-districts. Ghana Health Service has two health centres, one rural clinic and two CHPS compound. There are also two private maternity homes and one mines clinic owned by Newmont Ghana Gold Limited. The District has no Hospital and referred its cases to St. Elizabeth Hospital at Hwidiem in the Asutifi South District. The District Health Directorate collaborates with these service providers to ensure quality health care to the people in the district.

The top ten causes of OPD morbidity accounted for 77 percent whilst other diseases represent 23 percent. Among the top ten causes, malaria was the highest representing 32 percent. Acute respiratory tract infection totaled 17 percent while skin diseases and ulcers placed third seven percent.



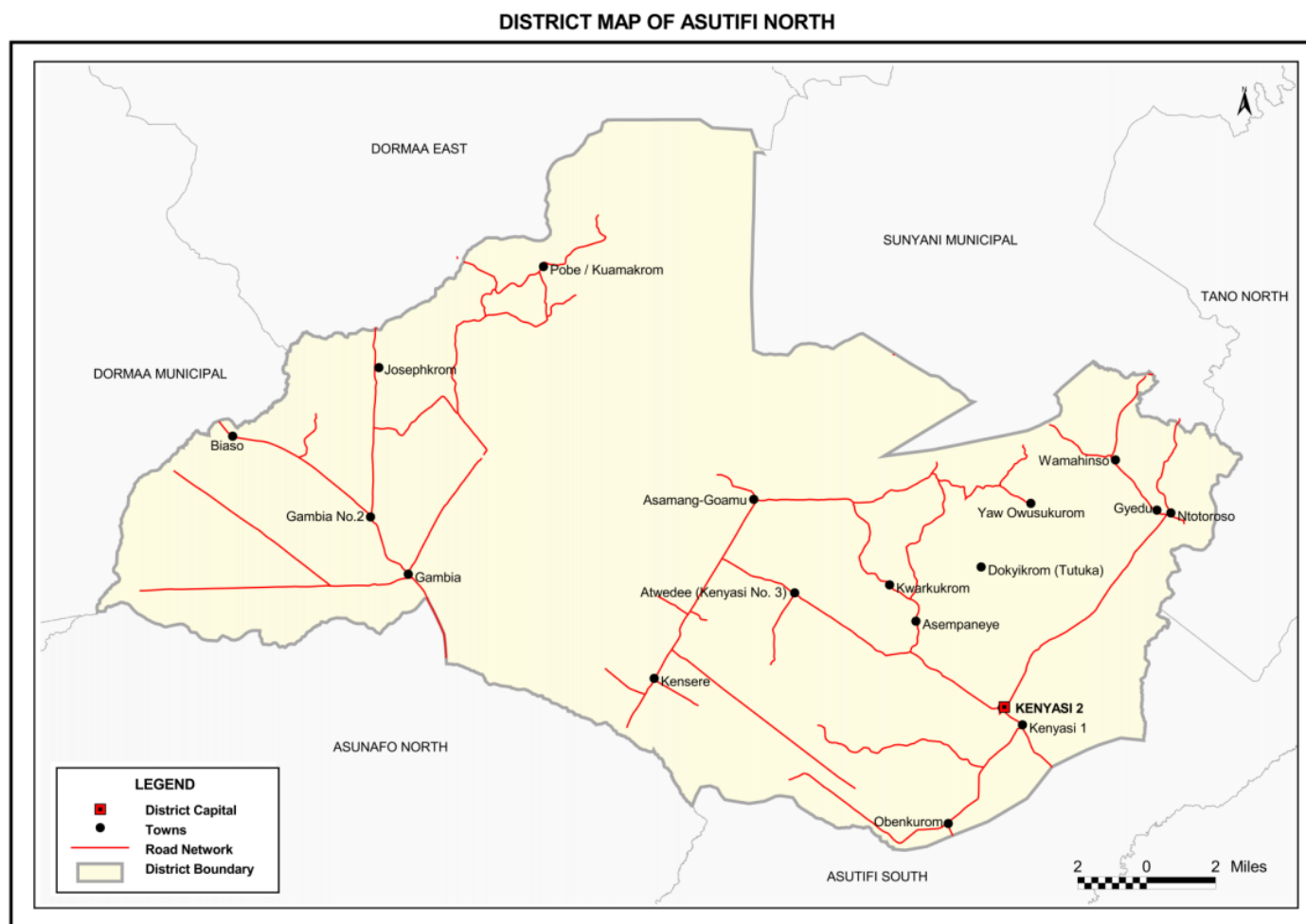


Figure 3: District map of Asutifi North

Source: Ghana Statistical Service (2014)

3.2 Research design

For this research, the exploratory descriptive cross-sectional design was employed for the study into an area that has not been explored in its complexity, as far as epilepsy is concerned. The intention was to study the nurses within the Asutifi North District with the aim of understanding their subjective experiences and knowledge on epilepsy in a socio-cultural context and how their attitude shaped their practice towards people with epilepsy.

The section of the descriptive research design that was used for this study was the survey research design where participants were given questions to answer.

3.3 Study population

Data gathered from the Human Resource Office of the District Health Directorate of the Asutifi North District indicated a staff strength of 140 workers, out of which 127 were nurses of varying backgrounds, and the remaining were other health staff (Field survey: Asutifi North Health Directorate, 2017). Because the research was to investigate knowledge, attitude and practice regarding epilepsy among nurses in the Asutifi North District of Brong Ahafo Region of Ghana, the accessible populations were nurses (both males and females) who were randomly selected and agreed to partake in this study in the district.



3.4 Study unit

For the purpose of this study, five communities were randomly selected from the top 20 largest communities within the district. The study units were Ghana Health Service (GHS) facilities in the district out which the nurses were selected from for the study.

3.5 Inclusion criteria

This involved all trained nurses who have passed through the various nursing institutions in the country and have been certified and licensed by the Nursing and Midwifery Council of Ghana to practice in the country and were currently at post at the district. The exclusion criteria were private health facilities, non-trained health professionals and other health professionals without nursing background, and student nurses on clinical attachment during the period of study in the district.

3.6 Sample size determination

The standard statistical formula (Rumsey, 2016; WikiHow, n.d.) was used to determine the sample size as detailed below:

Using Standard formula for sample size determination (Rumsey, 2016; WikiHow, n.d.)

$$n = \left(\frac{Z^2 \times s(1-s)}{e^2} \right) \div \left(1 + \left(\frac{Z^2 \times s(1-s)}{e^2 N} \right) \right), \text{ where}$$

n = Sample size

Z = Z-score (95% Confidence level; Z Value \Rightarrow 1.96)

e = Margin of error (i.e., allowing for 0.05)

N = Population size (i.e., 127 nurses)



s = Standard of deviation (0.5 or 50%)

Substituting figures into the equation

$$n = \left(\frac{Z^2 \times s(1-s)}{e^2} \right) \div \left(1 + \left(\frac{Z^2 \times s(1-s)}{e^2 N} \right) \right)$$

$$n = \left(\frac{1.96^2 \times 0.5(1-0.5)}{0.05^2} \right) \div \left(1 + \left(\frac{1.96^2 \times 0.5(1-0.5)}{0.05^2 \times 127} \right) \right)$$

$$n = \left(\frac{3.8416 \times 0.25}{0.0025} \right) \div \left(1 + \left(\frac{3.8416 \times 0.25}{0.0025 \times 127} \right) \right)$$

$$n = 384.16 \div 4.02488189$$

$$n = 95.44627905 \sim 95.5 \approx 96$$

However, for attrition rate where there was an anticipation of non-response by participants leading to missing data and then reducing the number of respondents for the study, it was prudent to increase the sample size. This was calculated as:

$$nA = \frac{n}{C}, \text{ where}$$

nA = Sample size (based on attrition or non-response)

n = Sample size (i.e. 96)

C = Confidence level (i.e., 0.95 or 95%)

Substituting figures into the equation

$$nA = \frac{n}{C} = \frac{96.0}{0.95} = 101.0526316 \sim 101.05 \approx 102$$

Therefore, the final sample size used for the study was 102.

The number of participants for the study was spread according to the proportion of the number of nurses at the various clinics that were visited in the Asutifi North District.



3.7 Sampling procedure

Since the Asutifi North District has 68 communities, the method of sampling used for this study was a multistage sampling technique. By population the district has 20 large communities. To access health care, these communities are grouped by the District Health Directorate in the various sub-districts, namely Kenyasi, Gyedu, Gambia, and Goamu. For this study, ten communities were randomly selected at the district level as the first stage. At the second stage, a simple random sampling was done to select the communities with the health institutions for the study. A systematic random sampling was done for the communities with the health institutions. The communities with health institutions were further randomly selected at the third stage where Kenyasi Health Centre, Gyedu Health Centre, Biaso CHPS, Krakyekrom, Atwedie, and Goamu-Koforidua CHPS were selected. At the fourth stage individuals at the health institutions were selected. And lastly, the participants were further randomly selected for the study. Only nurses were recruited for the study.

3.8 Study variables

The study variables covered Independent (e.g., socio-demographics), and Dependent or outcome (e.g., knowledge, attitudes and practices on epilepsy) variables that were employed in this study. Both male and female nurses within the various groupings of the nursing fraternity and licensed by the Nursing and Midwifery Council of Ghana made up the study variables.



3.9 Research Instrument for data collection

The research tool used for data collection for this study was a paper based self-designed semi-structured questionnaire. This was used to gather large amounts of information as items on the questionnaire for the study were reviewed and modified to suit the current research. The questionnaire has 26 items that were divided into six parts to cover the socio-demographics of respondents to knowledge, attitude and practice. The questionnaire was administered by researcher with the help of two trained assistance.

3.10 Data collection procedure

At the GHS facility in the communities, the selected participants were asked to respond to the paper based self-administered semi-structured questionnaire individually in a friendly, relaxed manner and that all responses would be treated confidential.

3.11 Data Analysis and presentation of results

The entire questionnaire was to facilitate data collection and subsequent data analysis. Descriptive statistics, which involves frequencies, percentages and charts were used in representing data for the socio-demographic characteristics of all respondents. Morris (1998) stipulated that determination of percentages provides a much more obvious way of bringing out relative differences between frequencies. An operational definition was used to categorize the level of knowledge on epilepsy, good or poor attitude, and practices of the study participants. Participants who had 16 or more correct responses out of 31 on the factors contributing to the development of epilepsy were grouped as having “high” knowledge and those who scored 15 or less as having “low” level of knowledge on epilepsy. Attitude towards epilepsy was operationally classified into good and poor



attitudes. Respondents who had three appropriate responses on the attitude were seen as having “good” attitude towards epilepsy, and those who had four or more inappropriate responses were thus classified as having “poor” attitude towards epilepsy. In terms of the practices on epilepsy, participants who had nine or more appropriate responses were operationally labelled as having “good” practices, and those who scored eight and below were operationally categorised as having “poor” practices.

The statistical tool that was used for analyzing the data was STATA, version 12.

3.12 Quality control

To ensure validity of the questionnaire used for this study, consultations were sought with research supervisors from the University for Development Studies (UDS) for their perusal before the commencement of the actual study. Besides, enhancing reliability of the instrument, and also in order to find out the relevance of the questions to the objectives/purpose of the study, and to avoid ambiguity, the items on the questionnaire were all pretested at Acherensua and Hwidiem at Asutifi South District of the Brong Ahafo Region with 10 respondents. Data entry controls were done by employing the services of data management consultant for pre-entry review of the data collected, using standard and the most current statistical software. Two research assistants were employed and trained on how to administer and orally explain the questionnaire to participants who cannot comprehend the medical terms used. They were also trained in research ethics for this study to comply with ethical standards as stipulated by the Graduate School, UDS.



3.13 Ethical consideration

Because this study involved human participants, an introductory letter was collected from the Department of Public Health of the School of Allied Health Sciences (SAHS), UDS, and this was presented to the District Assembly and the Health Directorate of Asutifi North to seek permission to conduct such an exercise within their jurisdiction. Respondents were informed about the purpose of this study to gain their cooperation, and that their responses and privacy would be protected to ensure confidentiality.

3.14 Limitation of the study

Because of the vastness of the district and dispersed the communities health centres were, coupled with bad nature of the feeder roads, accessing the respondents were a tedious task. This brought financial constraints on the researcher in terms of accessing the respondents. As a result, it did not allow for the inclusion of many a respondent to get a larger sample size more the 102.



CHAPTER FOUR

RESULTS

4.0 Overview

The findings for the study are presented in this chapter. All 102 questionnaires administered merited inclusion for analysis and the response rate was 100 percent. The presentations of the findings are in a figure and tables. They are organized by the demographic characteristics of the respondents, associated factors of epilepsy and preferred choice of treatment. An operational definition was used to categorise participants knowledge on epilepsy into high and low levels, as well as good and poor when it comes to the attitude and the practices on epilepsy. Besides, bivariate and analyses were conducted to test the strength of the association between knowledge on epilepsy and other independent variables.

4.1 Socio-demographic characteristics of the respondents

Table 4.1 below shows detailed description of background variables. Majority of the respondents 78.43% (80/102) were between the ages of 21 and 30 years, while a few 2.94% (3/102) of the respondents were between the ages of 51 and 60 years. More than half 73.5% (75/102) of the respondents were females. More so, 87.3% (89/102) of the nurses were Christians, 7.8% (8/102) were Muslims and 3.9% (4/102) were practicing Africa Traditional religion, with only 1.0% (1/102) nurse professing Buddhism. About 39.2% (40/102) respondents were Community Health Nurses, 28.4% (29/102) respondents were Health Assistant Clinical (HAC), while a few 6.9% (7/102) of the respondents were Registered Midwives. A few 8.8% (9/102) of the nurses have a close



family history of epilepsy. Table 4.1 highlights the details of the socio-demographic characteristics.

Table 4.1: Socio-demographic data of respondents

Variable	Frequency (N=102)	Percentage (100%)
Age		
- 21-30	80	78.43
- 31-40	14	13.73
- 41-50	5	4.90
- 51-60	3	2.94
Sex		
- Male	27	26.5
- Female	75	73.5
Religion		
- Christianity	89	87.3
- Muslim	8	7.8
- Africa Traditional	4	3.9
- Others	1	1.0
Specialized Area		
- RGN	15	14.7
- RMN	11	10.8
- RM	7	6.9
- CHN	40	39.2
- Others	29	28.4
Close Family with Epilepsy		
- Yes	9	8.8
- No	93	91.2

Source: Field data (2017)



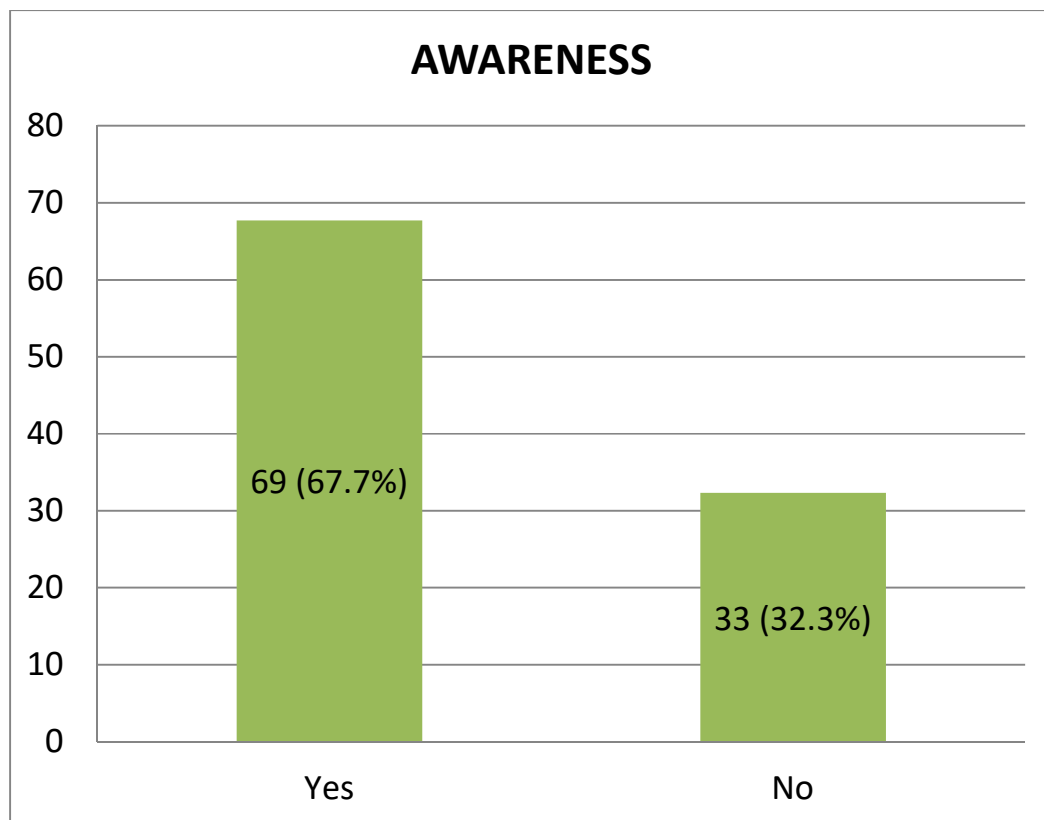
Research Objective 1: Determining knowledge on epilepsy

This section ascertained the nurses' knowledge on epilepsy. It looks at awareness of epilepsy among other variables.

4.2 Knowledge on epilepsy

4.2.1 Awareness of epilepsy

The nurses level of awareness of the causes of the disease was assessed to find out the knowledge of epilepsy. Majority 67.7% (69/102) of the respondents indicated awareness of the causes of the disease. The result of the data is presented in Figure 4.1 below.



Source: Field data (2017)

Figure 4: Awareness of causes of epilepsy



4.2.2 Knowledge of factors contributing to the development of epilepsy

The various factors contributing to the development of epilepsy have been captured under this session. The results of the perceived causes of epilepsy shows that 48.0% (49/102) of the nurses associated birth trauma to be the cause of epilepsy which is correct response. In terms of hereditary, 22.5% (23/102) of the respondent gave their accent to it which is a wrong response, whilst 13.7% (14/102) of the respondents attributed the onset of the disease to brain injury which they were right. Though the same number of the nurses indicated witchcraft as the perceived cause of epilepsy, they were wrong with that response. Notwithstanding the perceived causes of epilepsy, the result of the data indicated that 57.8% (59/102) of the respondents agreed that convulsion contribute to the development of epilepsy, 21.6% (22/102) of the respondents agreed that high body temperature contribute to the development of epilepsy whilst 14.7% (15/102) of the respondents concurred malaria as a contributing factor to the development of epilepsy. It is worth to say that all those responses given by the nurses were all correct. In connection with maternal factors, the result showed that 68.6% (70/102) of the respondents agreed that maternal alcohol consumption is a risk factor in epilepsy, 64.7% (66/102) of the respondents agreed that malnutrition is a risk factor in epilepsy, 49.0% (50/102) of the respondents were in accord that drug use is a risk factor in epilepsy, while only a few 23.6% (24/102) of the nurses knew maternal age above 30 years to be a risk factor for developing epilepsy. The above responses given by the nurses on the maternal risk factors to the development of epilepsy were all right.

Critical assessment of the maternal risk factors led to the ascertainment of some activities that sometimes trigger seizure in people with epilepsy. Out of the 102 respondents, 8.8%



nurses said “Yes” staring at TV/Computer screen for too long could trigger seizure. Besides, 36.3 percent of the nurses cited Stress as a triggering factor. In terms of breathing too fast/deeply could trigger seizure in PWE, 3.9 percent of the nurses accented to that fact. More so, 12.7% of the nurses claimed Flashing or bright light could trigger seizure, 45.1 percent of them identified lack of sleep as a contributory factor that could trigger seizure in PWE. The responses given by the few nurses on this variable were all correct.

Data collected on the manifestation of epilepsy from the nurses depicted that out of the 102 respondents, 31.4 percent of the nurses said “Yes” to Shrill cry (Shouting) as a clinical feature of epilepsy. In addition, 49.0 percent of the respondents indicated positive to loss of consciousness. Whilst falling down was accepted by 48.0 percent nurses as a manifestation of epilepsy, majority 60.8 percent of the nurses claimed jerking of the body as the cardinal manifestation of epilepsy, and Rolling of the eyes was accepted by 30.4 percent of the nurses, and 45.1 percent of the respondents said “Yes” to foaming of the mouth. When it came to the biting of the tongue as a manifestation of epilepsy, 30.4% (31/102) of the nurses affirmed it as a clinical feature; urination was mentioned by 23.5 percent of the respondents. Few 15.7 percent of the nurses responded “Yes” to abnormal behaviour as a manifestation. A critical assessment of the findings on manifestations of epilepsy from the respondents depicted that the responses afore-given were all right. It is deduced from the data that majority of the nurses do not know the clinical features of the disease. This is evident from the negative responses cited by the majority of the respondents. However, the manifestations serve as indicators in monitoring people with epilepsy so that urgent or immediate attention could be given to them. Table 4.2 depicts



the detail results on knowledge of respondents on factors contributing to the development of epilepsy.



Table 4.2: Knowledge of respondents on factors contributing to the development of epilepsy

Factors contributing to the Development of Epilepsy	Response rate (N=102)	
	Correct (%)	Wrong (%)
Perceived causal factors		
- Curse	95 (93.1%)	7 (6.9%)
- Hereditary	79 (77.5%)	23 (22.5%)
- Brain injury	14 (13.7%)	88 (86.3%)
- Witchcraft	88 (86.3%)	14 (13.7%)
- Birth trauma	49 (48.0%)	53 (52.0%)
- Spiritually possessed	90 (88.2%)	12 (11.8%)
- Brain infection	10 (9.8%)	92 (90.2%)
- Poison/Bad blood	96 (94.1%)	6 (5.9%)
Personal factors		
- Convulsion	59 (57.8%)	43 (42.2%)
- High temperature	22 (21.6%)	80 (78.4%)
- Malaria	15 (14.7%)	87 (85.3%)
- Parasitic infections	9 (8.8%)	93 (91.2%)
- Others factors	4 (3.9%)	98 (96.1%)
Maternal factors in epilepsy		
- Maternal alcohol	70 (68.6%)	32 (31.4%)
- Malnutrition	66 (64.7%)	36 (35.3%)
- Drug use	50 (49.0%)	52 (52.0%)
- Maternal age >30 years	24 (23.6%)	78 (76.4%)
Triggering factors		
- Lack of sleep	46 (45.1%)	56 (54.9%)
- Stress	37 (36.3%)	65 (63.7%)
- Flashing/Bright light	13 (12.7%)	89 (87.3%)
- Staring at screen for long	9 (8.8%)	93 (91.2%)
- Breathing too fast	4 (3.9%)	98 (96.1%)
Manifestation of Epilepsy		
- Jerking of the body	62 (60.8%)	40 (39.2%)
- Loss of consciousness	50 (49.0%)	52 (51.0%)
- Falling down	49 (48.0%)	53 (52.0%)
- Foaming of the mouth	46 (45.1%)	56 (54.9%)
- Shrill cry (Shouting)	32 (31.4%)	70 (68.6%)
- Rolling of the eye	31 (30.4%)	71 (69.6%)
- Biting of tongue	31 (30.4%)	71 (69.6%)
- Urination	24 (23.5%)	78 (76.5%)
- Abnormal behaviour	16 (15.7%)	86 (84.3%)

Source: Field data (2017)



4.2.3 Categorisation of level of knowledge on epilepsy

Participants who scored 16 or more out of the 31 items correct on the knowledge of factors contributing to the development of epilepsy were operationally labelled as having “high” knowledge and those who scored less or equal to 15 seen as having “low” knowledge. This is shown in table 4.3.

Table 4.3: Level of knowledge of participants

Level of knowledge	Frequency (N=102)	Percentage (100%)
- High	41	40.2
- Low	61	59.8

Source: Field data (2017)

The categorisation indicates that majority, 59.8% (61/102) of the nurses were less knowledgeable on the epilepsy.

Research Objective 2: Attitude towards epilepsy

This section of the study was meant to seek the views of nurses on their individual’s attitude (behaviour and relation) towards people with epilepsy. This was imperative to the study because there is general stereotype thinking about people living with epilepsy and how the disease could be transmitted, and this needed to be addressed accordingly.

4.3: Attitude towards epilepsy

4.3.1 Nurses behaviour towards PWE

Since the nurses’ attitude would influence their practice towards the disease, it was important to assess the nurses’ position towards epilepsy. In terms of PWE having the



same intelligence as non-epileptics, out of the 102 respondents, 34.3 percent supported that idea and they were right. About 8.8 percent were of the view that PWE could have the same employment as the general public do, and their response was correct. When it comes to relationship, 6.9 percent of the nurses said they would have amorous relationship with PWE for which they were also right in their response, and 17.6 percent of the nurses do not suspect PWE to have mental illness which is also correct in their response.

4.3.2 Ways of transmission of epilepsy

Results on this item show clearly that out of the 102 study participants, majority responded in the negative to the items given on the questionnaire, which they were all correct. In terms of Urine, 99.0 percent answered “No,” likewise response for Flatus (97.1%) and Faeces (95.1%). In connection with Marriage, majority (91.2%) opted “No,” and the same negative response for Physical contact (89.2%) and Sharing of food (85.3%) respectively, for which the respondents were right in their answers. Furthermore, results on this item indicated that 95.1% (97/102) of the nurses responded “No,” meaning that breathe of epileptic patient is not infectious, for which their response was correct. Also, 97.1% (99/102) of the nurses responded “No” the droppings of animals cannot spread epilepsy, for which response was correct. Notwithstanding, none of the respondents could mention any animal(s) whose droppings can spread epilepsy. Furthermore, 97.1% (99/102) of the respondents disclaimed that coming in contact with the excretions (body fluids) from PWE can be infectious, which was a correct response from the study participants. It was observed from the data that all the nurses (100%) agreed to the fact that saliva could not be a mean of transmission of epilepsy as their



response to that item were in the negative, which was also correct. It was observed from the result that respondents disclaimed, denied and refuted the fact that epilepsy is neither an air-borne disease, nor an animal dropping transmitted disease, and is not contagious through the excretion of body fluids. The detail results of the attitude towards epilepsy is in Table 4.4.

Table 4.4: Attitude towards epilepsy

Attitude	Response rate (N=102)	
	Correct (%)	Wrong (%)
Nurses attitude towards PWE		
- Have same intelligence	35 (34.3%)	67 (65.7%)
- Have same employment	9 (8.8%)	93 (91.2%)
- Amorous relationship	7 (6.9%)	95 (93.1%)
- Suspicion of mental illness	18 (17.6%)	84 (82.4%)
Ways of transmission		
- Urine	101 (99.0%)	1 (1.0%)
- Flatus	99 (97.1%)	3 (2.9%)
- Animal dropping	99 (97.1%)	3 (2.9%)
- Excretions/body fluids	99 (97.1%)	3 (2.9%)
- Breath from epileptics	97 (95.1%)	5 (4.9%)
- Faeces	97 (95.1%)	5 (4.9%)
- Marriage	93 (91.2%)	9 (8.8%)
- Physical contact	91 (89.2%)	11 (10.8%)
- Sharing of food	87 (85.3%)	15 (14.7%)
- Saliva	102 (100.0%)	0 (0.0%)

Source: Field data (2017)

4.3.3 Categorisation of attitude towards epilepsy

Attitude towards epilepsy was operationally classified into good and poor attitudes. Respondents who had three appropriate responses on the attitude were seen as having “good” attitude towards epilepsy, and those who had four or more inappropriate



responses were thus classified as having “poor” attitude towards epilepsy. The table 4.5 below highlights on the attitude categorisation.

Table 5: Level of attitude towards epilepsy

Attitude	Frequency (N=102)	Percentage (100%)
- Good	72	70.6
- Poor	30	29.4

Source: Field data (2017)

Looking at the categorisation above, it is clear that 70.6% (70/102) of the nurses have good attitude towards epilepsy.

Research Objective 3: Assessing practices on epilepsy

This section of the study was to ascertain the skills nurses have in managing epilepsy when it comes to exercising their duties and on some of the AEDs used in managing the disease.

4.4 Practices on epilepsy

This covers items such as what to do when seizure occurs, counselling nurses offer to PWE, and the preferred choice for the treatment of epilepsy. When the skills of the nurses were assessed on managing epilepsy during the attack, out of the 102 respondents for the study, majority (87.3%) said they “No” they would not keep/run away in the face of epileptic crisis, 81.4 percent also indicated same response that they would not touch the patient, and most said “Yes” to performing first aid (68.6%). All the above responses were correct. In terms of counselling the patient, the responses of the study participants



were all in the affirmative for which they were right. Avoid heights was positively indicated by 24.5 percent of the participants, Avoid alcohol (32.4%), Take drugs as prescribed (26.5%), Regular exercise (10.8%), and Get plenty of sleep (14.7%).

In the case of preferred choice for treatment, with the exception of Orthodox medicine which the respondents answered “Yes” for 66.7% (68/102) of the nurses and they were right, the rests of the responses were all in the negative for which the study participants were also correct for their answers. For those who said they would not encourage Prayer camp healing were 80.4%, Traditional/herbal (50.8%), Fetish healing (85.3%) and Animal sacrifice (93.1%). Despite the fact that epilepsy is treatable, their choice of treatment for epilepsy was against the religiospiritual domain. Table 4.6 highlights the details of the practices on epilepsy.

The fact that some of the nurses complained of lack of supply of anticonvulsants or antiepileptic agents from the district medical store, some of the agents mentioned in the management of epilepsy in their facilities or clinics include Phenobarbitone 34.3% (35/102), Diazepam 19.6% (20/102), Carbamazepine 14.7% (15/102) and Phenytoin 24.5% (25/102) among other drugs. It is therefore worth mentioning that at least the respondents were aware of some of the anticonvulsants/antiepileptics. Therefore, managing cases of seizure attacks in their communities should not be a problem.



Table 4.6: Practices on Epilepsy

Practices	Response rate (N=102)	
	Correct (%)	Wrong (%)
What to do when seizure occurs		
- Keep/Run away	89 (87.3%)	13 (12.7%)
- Touching patient	83 (81.4%)	19 (18.6%)
- Perform first aid measures	70 (68.6%)	32 (31.4%)
Counselling to patient		
- Avoid heights	26 (24.5%)	76 (74.5%)
- Avoid alcohol	33 (32.4%)	69 (67.7%)
- Take drugs as prescribed	27 (26.5%)	75 (73.5%)
- Regular exercise	11 (10.8%)	91 (89.2%)
- Get plenty of sleep	15 (14.7%)	87 (85.3%)
Preferred choice for treatment		
- Prayer camp healing	82 (80.4%)	20 (19.6%)
- Traditional/herbal	61 (50.8%)	41 (40.2%)
- Fetish healing	87 (85.3%)	15 (14.7%)
- Animal sacrifice	95 (93.1%)	7 (6.9%)
- Orthodox medicine	68 (66.7%)	34 (33.3%)
Drugs used in the treatment		
- Phenobarbitone	35 (34.3%)	-
- Diazepam	20 (19.6%)	-
- Carbamazepine	15 (14.7%)	-
- Phenytoin	25 (24.5%)	-
- Other drugs	7 (6.9%)	-

Source: Field data (2017)



4.4.1 Categorisation of practices on epilepsy

On the practices on epilepsy, participants who had nine or more appropriate responses were operationally labelled as having “good” practices, and those who scored from one to eight were operationally categorised as having “poor” practices.

Table 4.7: Level of practices on epilepsy

Practice	Frequency (N=102)	Percentage (100%)
- Good	48	47.1
- Poor	54	52.9

Source: Field data (2017)

Analysis from the table above indicates that more than half 52.9% (54/102) of the nurses had poor practices on epilepsy.

4.5 Socio-demographic determinants on knowledge, attitude and practices on epilepsy

This section was designed to look at the influence of socio-demographic characteristics on knowledge, attitude and practices on epilepsy to assess their statistical strength on the study. The table 4.8 (a, b, c) below highlights the details of the associations.



Table 4.8a: Socio-demographic factors and knowledge on epilepsy

Variable	Knowledge on epilepsy		p-value
	High (N=41) (100%)	Low (N=61) (100%)	
Age			
- 21 – 30 years	30 (73.3%)	50 (82.0%)	0.234
- 31 – 40 years	7 (17.1%)	10 (16.4%)	
- 41 – 50 years	2 (4.8%)	1 (1.6%)	
- 51 – 60 years	2 (4.8%)	0 (0.0%)	
Sex			
- Male	6 (14.6%)	7 (11.5%)	0.133
- Female	35 (85.4%)	54 (88.5%)	
Religion			
- Christianity	30 (73.2%)	53 (86.9%)	0.017*
- Muslim	7 (17.1%)	5 (8.2%)	
- Traditionalist	4 (9.7%)	0 (0.0%)	
- Others	0 (0.0%)	3 (4.9%)	
Speciality area			
- RGN	4 (9.8%)	5 (8.2%)	0.045*
- RMN	2 (4.9%)	0 (0.0%)	
- RM	3 (7.3%)	0 (0.0%)	
- CHN	16 (39.0%)	36 (59.0%)	
- Others	16 (39.0%)	20 (32.8%)	
Close family relationship with epilepsy			
- Yes	8 (12.2%)	1 (8.2%)	0.001*
- No	34 (87.8%)	56 (91.8%)	

(*)=p is statistically significant based on chi square analysis

Source: Field data (2017)



When the socio-demographic characteristics was cross-tabulated with knowledge of epilepsy, a significant difference was observed among religion ($p=0.017$), specialty area ($p=0.045$), and close family relationship with epilepsy ($p=0.001$).

Table 4.8b: Socio-demographic factors and attitude

Variable	Attitude towards epilepsy		p-value
	Good (N=72) (100%)	Poor (N=30) (100%)	
Age			
- 21 – 30 years	54 (75.0%)	20 (66.7%)	0.345
- 31 – 40 years	12 (16.6%)	9 (30.0%)	
- 41 – 50 years	3 (4.2%)	1 (3.3%)	
- 51 – 60 years	3 (4.2%)	0 (0.0%)	
Sex			
- Male	15 (20.8%)	4 (13.3%)	0.037*
- Female	57 (79.2%)	26 (86.7%)	
Religion			
- Christianity	60 (83.3%)	24 (80.0%)	0.012*
- Muslim	8 (11.1%)	5 (16.7%)	
- Traditionalist	4 (5.6%)	0 (0.0%)	
- Others	0 (0.0%)	1 (3.3%)	
Speciality area			
- RGN	12 (16.6%)	5 (16.7%)	0.054*
- RMN	9 (12.5%)	0 (0.0%)	
- RM	7 (9.7%)	0 (0.0%)	
- CHN	22 (30.6%)	15 (50.0%)	
- Others	22 (30.6%)	10 (33.3%)	
Close family relationship with Epilepsy			
- Yes	6 (8.3%)	5 (16.7%)	0.216
- No	66 (91.7%)	25 (83.3%)	

(*)= p is statistically significant based on chi square analysis Source: Field data (2017)

When the socio-demographic characteristics was cross-tabulated with attitude towards epilepsy, a significant difference was observed among sex ($p=0.037$), religion (0.012) and area of specialty ($p=0.054$).



Table 4.8c: Socio-demographic factors and practices

Variable	Practices on epilepsy		p-value
	Good (N=48) (100%)	Poor (N=54) (100%)	
Age			
- 21 – 30 years	34 (70.8%)	47 (87.0%)	0.192
- 31 – 40 years	8 (16.6%)	6 (11.1%)	
- 41 – 50 years	3 (6.3%)	1 (1.9%)	
- 51 – 60 years	3 (6.3%)	0 (0.0%)	
Sex			
- Male	13 (14.6%)	6 (13.04%)	0.189
- Female	43 (85.4%)	40 (87.0%)	
Religion			
- Christianity	44 (73.2%)	38 (82.6%)	0.065
- Muslim	8 (17.1%)	5 (10.9%)	
- Traditionalist	4 (9.7%)	0 (0.0%)	
- Others	0 (0.0%)	3 (6.5%)	
Speciality area			
- RGN	9 (16.2%)	5 (10.9%)	0.001*
- RMN	6 (10.7%)	0 (0.0%)	
- RM	5 (8.9%)	0 (0.0%)	
- CHN	18 (32.1%)	31 (67.4%)	
- Others	18 (32.1%)	10 (21.7%)	
Close family relationship with epilepsy			
- Yes	12 (21.4%)	6 (13.0%)	0.269
- No	44 (78.6%)	40 (87.0%)	

(*)=p is statistically significant based on chi square analysis Source: Field data (2017)

When the socio-demographic characteristics was cross-tabulated with practice on epilepsy, area of specialty (RMN) for the nurses (p=0.001) appeared statistically significant.



4.6 Knowledge of epilepsy and attitude

This section explains the strength of the knowledge on epilepsy that influences attitude. It takes into consideration the level of knowledge and how this impact the behaviour of the nurses towards epilepsy. When they were assessed, the data indicated no statistically significant association was observed. Tables 4.9 and 4.10 throw more light on them.

Table 4.9: Nurses behaviour and knowledge on epilepsy

Variable	Knowledge on epilepsy		p-value
	High (N=41) (100%)	Low (N=61) (100%)	
Would you want to have an amorous relationship with epileptic patient?			
- Yes	5 (12.2%)	2 (3.3%)	0.120
- No	36 (87.8%)	59 (96.7%)	
Do you suspect epileptic patients to be mentally ill			
- Yes	34 (82.9%)	49 (80.3%)	0.683
- No	7 (17.1%)	12 (19.7%)	
Do you share the view that epileptic patients have same intellectual capability			
- Yes	17 (41.5%)	18 (29.5%)	0.308
- No	24 (58.5%)	43 (70.5%)	
Person with epilepsy be employed in the same job as other people.			
- Yes	4 (9.8%)	3 (4.9%)	0.656
- No	37 (90.2%)	58 (95.1%)	

Source: Field data (2017)



Table 4.10: Knowledge on epilepsy and Attitude

Knowledge on epilepsy	Attitude		p-value
	Good (N=72) (100%)	Poor (N=30) (100%)	
- High	26 (36.1%)	15(50.0%)	0.192
- Low	46 (63.9%)	15 (50.0%)	

Source: Field data (2017)

4.7 Knowledge on epilepsy and practices

This section looks at the strengths of association between practices on epilepsy among other independent variables. Their statistical significance is determined by their p-values ($p < 0.050$).

Table 4.11: Knowledge and practices on epilepsy

Knowledge on epilepsy	Practice		p-value
	Good (N=48) (100%)	Poor (N=54) (100%)	
- High	23 (47.9%)	18 (33.3%)	0.134
- Low	25 (52.1%)	36 (66.7%)	

Source: Field data (2017)

When the strength of knowledge on epilepsy was associated with practices on epilepsy, no significant difference was observed.



Table 4.12: Practices and knowledge on epilepsy

Variable	Knowledge on epilepsy		p-value
	High (N=41) (100%)	Low (N=61) (100%)	
What do you do when seizure occurs?			
Keep/Run away			
- Yes	4 (9.8%)	9 (14.8%)	0.583
- No	37 (90.2%)	52 (85.2%)	
Not touching the person			
- Yes	10 (24.4%)	6 (9.8%)	0.087
- No	31 (75.6%)	55 (90.2%)	
Perform first-aid measures			
- Yes	27 (65.9%)	47 (77.0%)	0.310
- No	14 (34.1%)	14 (23.0%)	
Counselling a person with epilepsy			
Avoid heights			
- Yes	8 (19.5%)	23 (37.7%)	0.057
- No	33 (80.5%)	38 (62.3%)	
Avoid alcohol			
- Yes	28 (68.3%)	38 (62.3%)	0.426
- No	13 (31.7%)	23 (37.7%)	
Take drug as prescribed			
- Yes	11 (26.8%)	14 (23.0%)	0.837
- No	30 (73.2%)	47 (77.0%)	
Regular exercise			
- Yes	7 (17.1%)	6 (9.8%)	0.288
- No	34 (82.9%)	55 (90.2%)	
Get plenty of sleep			
- Yes	5 (12.2%)	9 (14.8%)	0.801
- No	36 (87.8%)	52 (85.2%)	

Source: Field data (2017)

When knowledge on epilepsy was associated with preferred treatment for epilepsy, no significant association was observed. Table 4.13 gives the highlights of the association.



Table 4.13: Knowledge on epilepsy and preferred treatment

Variable	Knowledge on epilepsy		p-value
	High (N=41) (100%)	Low (N=61) (100%)	
Preferred choice of treatment			
Payer camp healing			
- Yes	6 (14.6%)	12 (19.7%)	0.504
- No	35 (85.4%)	49 (80.3%)	
Traditional/Herbal medicine			
- Yes	15 (36.6%)	27 (44.3%)	0.470
- No	26 (63.4%)	34 (55.7%)	
Orthodox medicine			
- Yes	8 (19.5%)	5 (8.2%)	0.407
- No	33 (80.5%)	56 (91.8%)	
Fetish healing			
- Yes	3 (7.3%)	4 (6.6%)	0.602
- No	48 (92.7%)	57 (93.4%)	
Animal sacrifice			
- Yes	0 (0.0%)	3 (4.9%)	0.926
- No	41 (100.0%)	58 (95.1%)	

Source: Field data (2017)



4.8 Attitude that affects practices on epilepsy

The determinants of attitude were cross-tabulated to assess the strength of the association and how it affects practices on epilepsy. Table 4.14 below throws light it.

Table 4.14: Attitude and practices on epilepsy

Attitude	Practices on epilepsy		p-value
	Good (N=48) (100%)	Poor (N=54) (100%)	
- Good	40 (83.3%)	32 (59.3%)	0.008*
- Poor	8 (16.7%)	22 (40.7%)	

(*)=p is statistically significant based on chi square analysis Source: Field data (2017)

When the attitude was observed in connection with practices on epilepsy, a significant difference was observed for good attitude (p=0.008).



CHAPTER FIVE

DISCUSSION

5.0 Overview

This chapter cross-examines information obtained from the questionnaire with the data which was gathered through the literature review. It is organized in relation to the research questions, and provides the basis of understanding on issues pertaining to knowledge, attitude and practice regarding epilepsy among nurses in Asutifi North District in the Brong Ahafo Region of Ghana.

5.1 Background Information

Out of the 102 respondents, majority (78.43%) of the nurses were between the ages 21 and 30 years, while a few (2.94%) of the respondents were between the ages of 51 and 60 years. More than half (73.5%) of the respondents were females and 26.5 percent being males. Also 87.3 percent of the respondents were Christians, 7.8 percent being Muslims and 3.9 percent had their religion as African Traditional, with only 1.0 percent respondent belonging to Buddhism. About 39.2% (40/102) of the respondents were Community Health Nurses, while a few 6.9 percent were Registered Midwives, with 28.4% (29/102) of the respondents being Health Assistant Clinical (HAC). Most respondents 91.2% (93/102) had no close family member with epilepsy with only 8.8 percent of them having a close family history of epilepsy. This implies that nurses posted to the Asutifi North District Health Directorate have few family members or close relatives suffering from epilepsy. There was significant variation in the demographic characteristics by gender



distributions. By this it signifies that females were the dominate group of respondents within this study.

When knowledge on epilepsy was cross-tabulated with the socio-demographic characteristics, a significant difference was observed among religion ($p=0.017$), specialty area ($p=0.045$), and close family relationship with epilepsy ($p=0.001$). There was no statistical significance on how age and sex influence knowledge on the disease.

5.2 Research Objective 1: “Determining knowledge on epilepsy”

The results on the basic knowledge of the participants for this study on the perceived causes of epilepsy as shown in figure 4.1 indicated that a majority 67.7% (69/102) of the nurses responded “Yes” being aware and know the causes of epilepsy with 32.4 percent saying “No”. This implies that majority of the nurses are not ignorant of the causes of epilepsy. This outcome of this study is in sharp contrast to Nyame and Biritwum’s (1997) study that indicated 172 (45.3%) of their respondents did not know the cause of epilepsy among literate adults in urban population of Ghana, saying they are ignorant of the cause of the disease. This notion also conforms to Kabir and colleagues (2005), and Rwiza and others (1993) in their various studies that 25.2 percent and 67.7 percent respectively did not know the cause of epilepsy. When people with epilepsy were asked about their knowledge on the cause of their disease, Kassie and others (2014) reported that 58 (32.2%) of the respondents said, “we don’t know the cause of epilepsy.” It can be concluded from this discussion that most people do not know the cause(s) of epilepsy, and this is a major concern for health care needing more public health education and training on the disease.



5.2.1 Perceived causes of epilepsy

When the the nurses' knowledge on the perceived causes of epilepsy was sought for, out of the 102 participants, the following responses were captured as indicative of the disease: curse (6.9%), heredity (22.5%), brain injury (13.7%), witchcraft (13.7%), birth trauma (48%), spiritually possessed (11.8%), brain infections (9.8%), and poisoning/bad blood (5.9%). It is worth to note that 20.6% (21/102) of the nurses gave no response to the perceived cause(s) of the disease. This is an indication that the few nurses who gave these responses and those who failed to give their responses have low knowledge of the disease. It can be deduced from this study that the causes of epilepsy is categorized into physiological and cultural-superstitious causes by the respondents. Specifically, the physiological causes took the form of brain injury, birth trauma and brain infection whilst the cultural-superstitious causes also manifested through curse, heredity, witchcraft, and spiritual possession. This argument is supported by Illingworth and colleagues (2014) who commented that environmental, physical, or emotional factors increase or decrease the likelihood of seizure occurrence. To strengthen this argument, Nyame and Biritwum (1997) affirmed the findings of this study that out of the 358 responses to the cause of epilepsy, 114 (31.8%) said it was inherited disease, 100 (27.9%) said it was due to witchcraft/juju or spiritual. A similar study conducted on beliefs on epilepsy in Northern Ghana also highlighted that the most interesting perceived cause of seizures in males is habouring anal worms, and spirituality a strong notion as a perceived cause. Besides, there is the belief that spells of epilepsy are cast on women as a form of punishment when they engage in adultery (Adjei, et al., 2013). To confirm the findings of this study, a similar study among adults in Northern Nigerian Urban Community indicated that 19.9



percent of the respondents identified the cause of epilepsy as heredity, followed by brain injury (19.2%), possession of evil spirits (16.3%) and brain infection (11.7%) (Kabir, et al., 2005). When it comes to aetiology of epilepsy, Ekeh and Ekrikpo (2015) identified similar responses among medical students in Uyo, Southern Nigeria that 18 (14.88%) of the basic students and six (5.41%) of the clinical students were positive that epilepsy was caused by evil spirits. Eleven (9.09%) of the basic students compared to six (5.41%) of the clinical students believe that epilepsy was caused by witches. Ten of the basic students as against only three (2.70%) of the clinical students identified palm oil as a cause. In relation to trauma as the cause of epilepsy, only 54 (44.63%) of the preclinical students were in the affirmative as against a whopping 92 (82.88%) of the clinical students. The result further added that a large number of clinical students 95 (85.59%) know that birth injuries can cause epilepsy as against 54 (47.11%) of the basic students. Only 44 (36.36%) of the preclinical students were aware that infections can cause epilepsy as against 98 (88.29%) of the clinical students. On brain tumours, 98 (88.29%) of the clinical students were aware that brain tumours can cause epilepsy in comparison with 87 (71.90%) of the basic students. Masoudnia (2009) confirms the findings of this study that brain injury, heredity disease, divine punishment, head injury, blood disorder and malnutrition and birth defect were the reported perceived causes of epilepsy. However, there was a contrary view to the findings of this study where Dr. Patrick Adjei, speaking at the World Epilepsy Day, said epilepsy had nothing do with witchcraft and spirits but comes about as result of physical condition of the brain (GHS, 2015). It can therefore be concluded that epilepsy is a neurological condition stemming from the brain and had nothing to do with spirituality as others perceived it to be.



5.2.1.1 Personal factors contributing to the development of epilepsy

The results of this study showed that out of the 102 respondents, 57.8% (56/102) of the nurses agreed that convulsion contribute to the development of epilepsy with 21.6% of the respondents saying that high body temperature contribute to the development of epilepsy whilst 14.7% (15/102) of the respondents agreed that malaria also contribute to the development of epilepsy with 8.8% being parasitic/bacterial infections among other contributing factors. It was evident from the result that convulsion is the leading cause of epilepsy followed by high body temperature and malaria. Newton and Garcia (2012) also cited that the most common infections associated with seizure disorders include neurocysticercosis, falciparum malaria, meningitis, and encephalitis. In support of other factors contributing to epilepsy, febrile convulsions have been identified as significant risk factors to the development of epilepsy (Li & Schoenberg, 1987; Ogunniya et al., 1987). It is imperative to say that treating all systemic infections early will avert the onset of this disease, especially in children.

5.2.1.2 Maternal risk factors in epilepsy

The results of this study showed that 68.6% (70/102) of the respondents agreed that maternal alcohol consumption is a risk factor in epilepsy, 64.7 % of the respondents agreed that malnutrition is a risk factor in epilepsy, 49.0% of the respondents agreed that drug use is a risk factor in epilepsy while only a few 20.6% (20/102) of respondent knew maternal age above 30 years to be a risk factor of developing epilepsy. It can be deduced from this study that nurses attested maternal alcohol consumption, malnutrition and drug use to be the leading risk factors of epilepsy. A critical analysis of the data shows that 79.4 percent of the nurses did not ascribe to the fact that maternal age above 30 before



given birth is a risk factor in epilepsy. However, Li and Schoenberg (1987) indicated maternal age above 30 has a significant risk factor for idiopathic epilepsy. Notwithstanding this notion, Newton and Garcia (2012) contended that malnutrition is associated with epilepsy, stating that micronutrient deficiencies are associated with seizures. Masoudnia (2009) identified similar findings reporting that malnutrition is a significant risk factor to developing epilepsy. In support of the assertions made so far, Ogunniya and colleagues (1987) stated that malnutrition and maternal alcohol consumption also serve as putative risk factors for epilepsy. On account of maternal alcohol consumption and drug use, Cassano and associates (1990) asserted that mothers who take alcohol are likely to indulge in other drug use. Their study on risk of febrile seizures in childhood in relation to prenatal maternal cigarette smoking and alcohol intake identified maternal cigarette smoking and alcohol intake during pregnancy were associated with the risk of a febrile seizure in the child. The study showed that prenatal maternal cigarette smoking was associated with a two-fold increase in the risk of a simple febrile seizure (95% confidence interval 1.2–3.4). The findings further indicated that prenatal maternal alcohol intake was also associated with a two-fold increase in the risk of a complex febrile seizure (95% confidence interval 1.3–3.8). Their results suggested that curtailing smoking and alcohol consumption during pregnancy may be an effective means of preventing childhood febrile seizures (Cassano, et al., 1990). To sustain the discussion so far, Vestergaard and colleagues (2005) in their study found a slightly increased risk for febrile seizures in children who were exposed to 10 or more cigarettes per day in their Aarhus Birth Cohort. However, they were quick to claim that they found no association between maternal alcohol and coffee consumption and the risk for febrile



seizures in their findings, and concluded that prenatal exposure to low to moderate levels of alcohol and coffee has no impact on the risk for febrile seizures, whereas a modest smoking effect cannot be ruled out. In conclusion, no level of alcohol and drug consumption is safe for an expectant mother. Mothers are to take drugs as prescribed and eat well.

5.2.1.3 Triggering factors

Forty six (45.1%) nurses identified lack of sleep as a contributory factor to triggering seizure in PWE, 37 (36.3%) of respondents cited stress while four (3.9%) attributed fast breathing to trigger seizure for this study. Nine (8.8%) respondents attributed the trigger of the disease to staring at TV/Computer screen for too long, and flashing/bright light was claimed by 13 (12.7%) of the nurses. Though few nurses were able to state what could trigger seizure attacks in PWE, an assessment of the data pointed to the fact that majority have no idea on the factors that can trigger the seizure attack since the nurses responded in the negative. This calls for training and education on the disease.

In response to stress, Moselhy (2011) reported that to be epileptic is to be stressed and stress can influence the incidence of fits. To affirm the findings of this study, Illingworth and others (2014) stated that stress is the most commonly reported seizure precipitant in a number of surveys of people with epilepsy, with tiredness and sleep deprivation also commonly reported. In support of lack of sleep, Bell (2009) documented that 64.2 percent of those with FASD experienced sleeping problems, and therefore sleep deprivation is a precipitating factor for seizures. Further data from Verma and Vankar (2016) proved that 96.8 percent post-intervention agreed that epilepsy is caused by stress, and pre-intervention reported 24.5 percent as disagreeing on that issue. Goodman (2004) and



Shafer (2017) shared similar concerns on precipitants of seizure attack such as flashing of lights, sleep deprivation, and hyperventilation. Jones (1983) affirmed this stance by noting that hyperventilation may induce an absence attack or petit mal seizure in children. These findings are in tune with the outcomes for this study.

5.2.2 Perceived manifestations of epilepsy

Out of the 102 participants, 60.8% (62/102) of the nurses said jerking of the body is a manifestation of epilepsy, followed by loss of consciousness (49.0%). Also 45.1 percent of the nurses knew foaming of the mouth as a manifestation of epilepsy whilst 48.0 percent of the nurses claimed falling down to be a manifestation of epilepsy, with shouting/shrill cry described by 31.4% (32/102) of the participants as manifestation of epilepsy. Thirty one (30.4%) of respondents identified rolling of the eyes and tongue biting as manifestation of epilepsy, 24 (23.5%) respondents said urination is manifestation of epilepsy with only a few 16 (15.7%) respondents associating abnormal behaviour to epilepsy. A critical assessment of the findings of this study from the nurses depicted that epilepsy manifest itself through the loss of consciousness, falling down, the jerking of the body, as well as the foaming of the mouth. These manifestations serve as indicators in monitoring people with epilepsy so that urgent or immediate attention and care could be given to them.

The aforementioned manifestations were similar to those mentioned by Teferi and Shewangizaw (2015) that a seizure results in almost instantaneous loss of consciousness or convulsive movements, or combination of these. The manifestations in this study were also in line with the explanation given by Neni and colleagues (2010), and WHO (2016)



that epilepsy is characterized by recurrent seizures, which are brief episodes of involuntary movement that may involve a part of the body (partial) or the entire body (generalized), and are sometimes accompanied by loss of consciousness and control of bowel or bladder function. Kabir and colleagues (2005) summed up the manifestations of epilepsy in accordance with this report by saying that the most common symptoms proffered by most of their respondents in their study include convulsion (39.0%), falling down (36.0%), rolling of eyes (11.3%), foaming of mouth (10.3%), urination (2.2%), and biting of tongue (1.4%). To strengthen the discussion, Millogo and colleagues (2004) reiterated that 31 percent of their respondents diagnosed epilepsy if there is a combination of ‘convulsions, and sudden fall.’

5.2.3 Perceived transmission of epilepsy

How epilepsy is transmitted was captured by 15 (14.7%) nurses in this study who perceived sharing of food could possibly transmit epilepsy whilst 11 (10.8%) nurses said physical contact with a patient can facilitate transmission of the disease, and nine (8.8%) said it could be transmitted through marital union. However, majority 59 (57.8%) nurses did not respond to the item options, a gesture suggesting they disagree with the perceived transmission of the disease. In spite of that a critical look at the data gave an indication that the nurses who gave positive responses to the perceived spread of the disease lack knowledge of epilepsy. This lack of information has been indicated as an important factor in stigma perpetuation as surveys in developing countries with different cultures reveal common beliefs, for example, that epilepsy is contagious (Adamolekun, 1997; Andermann, 1999; Ekeh and Ekrikpo, 2015; Fernandes, et al, 2005; Millogo, et al., 2004;



Sureka, et al., 2015). In support of the findings of this research, it was reported that among the medical students studied, 30 (24.79%) basic and 11 (9.91%) clinical students respectively believed that epilepsy is transmitted by saliva; 46 (38.02%) basic and six (5.41%) clinical students affirmed blood as a means of spread of the disease; urine was made up of 10(8.26%) basic and six (5.41%) clinical students; faeces/flatus claimed by six (4.96%) basic and four (3.60%) clinical students respectively (Ekeh and Ekrikpo (2015). Nyame and Biritwum (1997) identified similar misperceptions in their study in Accra and reported that epilepsy can be spread by contact and that epileptics must be isolated or avoided. This belief was also supported by Kassie and others (2014) also reported that four (2.2%) of their respondents admitted that epilepsy is transmitted through contacts with epileptic patients. To confirm the findings of this research, Rwiza and colleagues (1993) concluded that 40.6 percent of their respondents believed epilepsy was infectious through physical contact, and sharing food. A report cited by Mustapha and colleagues (2013) showed that about 30.5 percent of their respondents believed that epilepsy could be contracted through saliva. A survey conducted by the Ankaful Psychiatric Hospital OPD health team in 2006 in Ghana also proved that most of the family members who accompanied their relatives to the hospital for treatment on epilepsy believed that they might have gotten the condition through physical contact of an evil-intended person through whose spell the condition spreads. In sharp contrast to this research is a study published in 2002 indicating 22 percent of young Americans confessed to not knowing whether epilepsy was a contagious condition (Fernandes, Snape, Beran, & Jacoby, 2011). Besides, there is no clinical evidence to suggest that



epilepsy is contagious. It can neither be spread by physical contact nor saliva (foaming on the patient's mouth) (Goodman, 2004).

5.3 Research Objective 2: “Attitude towards people with epilepsy”

This section of the study was meant to seek the views of the respondents on their individual's attitude (behaviour and relation) towards people with epilepsy. This was imperative to this study because there is general stereotype thinking about people living with epilepsy, and this needed to be discussed and addressed accordingly.

5.3.1 Nurses behaviour towards PWE

5.3.1.2 Amorous relationship

The results of this study on this item showed that 95 (93.1%) of the respondents posited that they will not engage themselves in amorous relationship with a person with epilepsy, whilst seven (6.9%) nurses responded “Yes” to have relationship. When the majority who declined to have an amorous relationship with people with epilepsy were tasked to give their subjective reason(s), these were what the nurses recorded:

“The person can have an attack during sex; It will be a disgrace to my image; It is genetic; They are mentally impaired; Epileptic patients are classified as dirty people; People will always gossip about you; Friends will shun my company; People with epilepsy cannot attend important functions; I can be bitten and get infected; People might think of having used my partner for Juju (spiritual money); I cannot be enstooled as a queen mother if I marry an epileptic patient; It is believed that people with epilepsy are children from the gods.”



The above comments were in congruent with the assertion that epileptic persons suffer untold social deprivations and discrimination in marital life (Kabir, et al, 2005). Teferi and Shewangizaw (2015) reported that 44.8 percent of their respondents indicated their refusal to marry people with epilepsy. This is in consistent with the findings of this research report. Further discussion by Sureka and colleagues (2015) indicated that nearly 35 percent of the students believed that persons with epilepsy could not lead a happy married life. In support of the findings of this research, Chomba and colleagues (2007) reported that approximately 25 percent of health care workers in their study would not allow their child to marry someone with epilepsy and 20 percent thought people with epilepsy should not marry. Findings from Ajibade and colleagues (2016) study showed a person with epilepsy should not be married and bear children and majority agreed to have a divorce or separate spouse if diagnosed of epilepsy. To buttress the assertion afore- indicated, a study in South West Cameroon gave the results in support of this research that about 33 percent of student nurses and 52 percent of laboratory assistants would object to their children marrying people with epilepsy (Njamnshi, et al., 2010). In support of these assertions, Goel and colleagues (2013) published that nearly one-third (32.2%) felt that epilepsy interferes with marriage, as one study confirmed that the divorce rate is higher in PWE (Ahmad, 2011). These findings compliment the subjective responses from the participants of this research.

In sharp contrast to the findings of this study, epilepsy does not appear to be a major stress factor in marriage as long as the spouse is knowledgeable about the condition. Such couples often exhibit a greater degree of mutual concern and support (Jones, 1983). In support of the counter arguments, Falavigna and others' (2009) also indicated 85.1



percent of their respondents approved marrying an epileptic. Chomba and others (2007) affirmed this positive attitude stating that 75 percent of their respondents would allow their son or daughter to marry someone with epilepsy. Similar findings by Vancini and colleagues (2012) showed that 84 percent and 85 percent of nurses and physicians would maintain a relationship with a person with epilepsy, with 61 percent of nutritionists doing the same.

When attitude towards epilepsy was associated with the socio-demographic characteristics to determine its influence, a significant difference was observed among sex (female) ($p=0.037$), religion (Muslim) ($p=0.012$), and specialty area (RMN) ($p=0.054$), and there was no statistical significance on how age and close family relationship with epilepsy influence knowledge on the disease.

5.3.1.3 Suspicion of mental illness

The findings of this study revealed that out of the 102 respondents, 84 (82.4%) of the nurses suspect epileptic people to have mental illness with 18 (17.6%) declining that notion. The majority of the nurses who suspect people with epilepsy to have mental illness gave these subjective responses:

“Abnormal discharges cause convulsion which brings about mental problem;
Head injury from epilepsy can affect the mental reasoning; As the epilepsy continues, it results in mental illness; He will be depressed about the illness;
Because epilepsy is found to be a disorder of the brain cells of human.”

The few 18 (17.6%) nurses who did not associate epilepsy with mental illness also have these comments:



“Since it has not affected my thinking abilities, that does not make me mentally ill; Not all epilepsy patients are mentally ill; Epilepsy is not a cognitive disease and those with epilepsy can have their normal life; It is medical condition; Because an epileptic patient can take part in every activity within the community and also to form a good social relation with others; They do not show any signs of mental illness.”

In tune with the result from this analysis, Mustapha and colleagues (2013) cited a report where 10 percent equated epilepsy with insanity, thus confirming the notion put forth by majority of the nurses for this research. More so, report from other studies have shown that people with less awareness and knowledge about epilepsy tend to have negative attitudes toward the disease and misperceptions such as epilepsy being a form of insanity (Karimi, & Akbarian, 2016). Sureka and colleagues (2015) reported that nearly 35 percent of the nursing students believed epilepsy is a mental illness. This assertion is similar to the findings of this research report. Consequently, Falavigna and others (2009) observed in their study that 26.4 percent of the university students correlated epilepsy with mental disease. Similar findings by Ahmed and associates (1994), Njamnshi, and others (2010), Teferi and Shewangizaw (2015), and Ovsiew (1994) showed that respondents equate epilepsy to mental illness. It is obvious from the discussions on this issue of suspicion of mental illness that majority of the nurses for this study associate epilepsy with mental illness and this points to lack of knowledge of the disease.

In sharp contrast to the findings of this research is the revelation by Nyame and Biritwum (1997) that the highly educated did not view epileptics as not mentally sick persons. Goel and colleagues (2013) published that 67.8 percent of their respondents believed persons



with epilepsy were neither mad nor insane to defend Nyame and Biritwum's study. In support of this defense is the report from Karimi and Akbarian (2016) study where it was published that 68 respondents thought "epilepsy is not a form of mental illness," and 66 (97.05%) believed that people with epilepsy are not insane.

Though epilepsy may co-exist with mental illness, in some cases, and some PWE have exhibited abnormal behaviour after the crisis phase of the attack, as per personal clinical observations, most PWE are intellectually sound and have excel both academically and in other professions. To conclude, epilepsy is not a psychotic disorder.

5.3.1.4 Intellectual capability

Data from this study further stressed that 67 (65.7%) of the respondents agreed that people with epilepsy do not have the same intellectual capabilities as the general public, whilst 35 (34.3%) disclaimed that idea. Those who purported that PWE have same intellectual capabilities as the general public cited these personal reasons:

"They are intellectually capable in the absence of the condition; They are able to do every mental activity like everybody else; Because it does not affect your intelligence; Because they have equal personalities; Apart from them being epileptic, every aspect of their life is normal."

In connection with epileptics' intellectual capabilities, there is evidence of association between epilepsy and specific learning disabilities as 42.7 percent of their respondents knew that the person with epilepsy may have learning problems (Lunardi, et al., 2012). In affirming the findings of this research, people with mild to moderate intellectual disability (ID) lifetime epilepsy have been reported to have prevalence at between six and 15 percent. In those with severe ID epilepsy occurs in around 25 percent whilst in those



with profound ID (IQ<20) (Ring, 2013). These findings show a strong correlation between epilepsy and intellectual capabilities of PWE.

However, Olotu and colleagues (n.d.) disagree with the findings of this research as they purported that most people with epilepsy do not have intellectual disabilities. In endorsing this view, Karimi and Akbarian (2016) in their study published that 60 (88.23%) of their respondents support the idea that persons with epilepsy can have university education. Ellis and Cherney (2017) in backing view have published 12 famous faces of individuals with epilepsy who have excelled in their fields of endeavours.

5.3.1.5 Employment

Result from this study indicated that nine (8.8%) of respondents were of the view that persons with epilepsy be employed in the same job as other people, with majority 93 (91.2%) saying “No”. Deductions from this data showed that the nurses have poor attitude towards PWE as this is evident by their utmost responses given that epileptic people have psychological deficiencies, mental disorders and behaviour leading to a deficiency in their intellectual abilities, and for that matter cannot be employed in the same job as other people.

Kabir and colleagues (2005) confirmed this assertion in this research by saying that persons with epilepsy are shunned and discriminated against in employment in Africa because epilepsy is seen as a highly contagious and shameful disease in the eyes of the public. Sureka and colleagues’ (2015) finding was similar to this study as approximately 25 percent of their respondents reported that people with epilepsy cannot work like others. Backing up this argument, an Italian university-based survey showed that 56



percent of the students think epilepsy limits a person's working capacity (Falavigna, et al., 2009). Newton and Garcia (2012) identified similar findings and declared that most people with epilepsy in poor regions of the world are less likely to find employment.

Notwithstanding, Falavigna and others (2009) contradicts this study where they observed in their study that the majority of their respondents would offer a job (90.4%). In defense of this notion, Karimi and Akbarian (2016) in their study published that 57 (86.36%) of their respondents believe that persons with epilepsy can get opportunities of appropriate occupation.

5.3.2 Other means of transmission of epilepsy

Though majority 59 (57.8%) of the respondents did not respond to the item options given, analysis of the findings from this section of the study depicted that five (4.9%) nurses responded "Yes" that breathe from an epileptic patient can be infectious whiles 97 (95.1%) of them responded "No." When asked to give reasons for their positive response to the transmission of the disease, the nurses who had this to say:

"Inhaling breath of an epileptic patient is equally contagious; Breathe from an epileptic patient contains microbes which are harmful to an individual; The air from the patient is infected with germs."

For those who disclaimed the notion of breathe being infectious and thus cannot spread epilepsy also gave these reasons for their responses:

"Epilepsy is not a communicable disease; Epilepsy is not caused by any virus; The disease has not affected the immune system; Because it is hereditary disorder that only occurs in the mutations of genes; It is rather an injury in the



brain that causes epilepsy; The seizures are not as a result of infectious agents that can be transmitted through breathing but rather environmental factor or psychological problem.”

More so, three (2.9%) nurses responded “Yes” the dropping of animals can spread epilepsy whilst 99 (97.1%) responded “No” the dropping of animals cannot spread epilepsy. Notwithstanding, none of the nurses who responded “Yes” could mention any animal(s) whose droppings can spread epilepsy. Furthermore, three (2.9%) nurses attested that coming in contact with the excretions (body fluids) of an epileptic patient can be infectious whilst 99 (97.1%) of the respondents disclaimed that notion. It was observed from the result that respondents disclaimed, denied and refuted the fact that epilepsy is an air-borne disease, neither an animal dropping transmitted disease, nor is contagious through the excretion of body fluids.

The findings as discussed were similar to the study conducted by Ajibade and colleagues (2016) who cited that epilepsy is thought to be a result of a lizard spinning around in circles in the head disturbing the brain causing dizziness, usually followed by a seizure. They further contended that epilepsy is thought to be due to an insect moving inside the stomach and in Swaziland epilepsy is thought to be caused by sorcery, which sends evil animals causing convulsion. Rwiza and colleagues (1993) in their study in Tanzania came out that 40.6 percent of their respondents believed epilepsy were infectious through breath, and excretions. Mustapha and associates (2013) made a reference to a report where about 30.5 percent of the respondents in that study believed that epilepsy could be contracted through saliva, which is a fluid from the body. Olubunmi (2009) confirmed this notion as he indicated that epilepsy is also believed to be infectious and transmitted



through the saliva of a patient having an attack. However, there is no clinical evidence to suggest that epilepsy can be spread by saliva (foaming on the patient's mouth). Besides, it cannot be transmitted by evil insects, described as cockroaches, and other rodents (Goodman, 2004).

When the attitudes of the nurses towards epilepsy were classified, it tends out that majority 70.6% (72/102) had good attitude towards the disease. This led to investigating the strength of the sociodemographic characteristics as against the attitude of the nurses. It tends out that the variables that influence attitude were sex (female) ($p=0.037$), Muslim religion ($p=0.012$), and area of specialty (RMN) ($p=0.054$). There were no statistical associations between other ways of transmission of epilepsy and attitude.

5.4 Research Objective 3: “Assessing practices on epilepsy”

This section of the study was to ascertain the care given to epileptic people during their attack. It was also to find the counselling options proffered by the nurses for the disease, as well AEDs given to PWE to manage their condition in the communities.

5.4.1 Care given to PWE during fit attacks

5.4.1.2 What do you do when seizure occurs?

Due to the training nurses have gone through, this study revealed that 70 (68.6%) of the nurses responded that they will perform recommended first-aid measures on epileptic person when seizure occurs, 19 (18.6%) of the nurses responded that they will not touch the patient whilst 13 (12.8%) of the nurses responded that they will keep/run away for fear of the attack. For the nurses who claimed they will perform recommended first-aid measures, 54 (77.1%) of them said they will reassure the patient that he or she will be



well and refer him or her for appropriate medical treatment, whilst 16 (22.9%) after the recommended first-aid is given they will clean the person up and ask him to continue his or her journey. These findings suggest that with increase training on epilepsy, nurses would have a positive attitude towards persons living with epilepsy and improve care.

When Esegbe and associates (2015) asked mothers on their initial interventions on childhood epilepsy against seizure, 18.2 percent said they would run away, and 53.33 percent indicated positioning the patient as regards measures taking during seizure attack (Kassie et al., 2014). More so, Sureka and colleagues (2015) has published that 4.3 percent of nursing faculty would offer first aid on seeing an epileptic attack. In line with this view, Chilopora, and others (2001) documented that 10 nurses in their study helped people with epilepsy during the attack in various ways; in five cases a soft pad or hard object was placed between the teeth, a clear airway was ensured in six and tight clothing was loosened in two cases. Wehrle (2003) supported this position by indicating that there is not much one can do to stop a seizure once it starts. But anyone can help protect a person having seizure from harm during an attack. If anyone wants to do something for the person, focus on keeping him/her safe. These findings support the result of this study.

5.4.1.3 What to do after seizure has subsided?

In terms of practice, when the respondents were asked about what they would have done after a person with epilepsy has suffered a seizure attack came out with these subjective responses:

“Check vital signs and allow the person to rest; Removal of all harmful/corrosive substances surrounding the individual; Putting the head on soft material or pillows; Staying with the individual till he/she recovers;



Maintain pathway for air for breathing; Arrange for medical care if necessary; Pick the victim from the bare floor; Educate the victim and reassure psychologically; Serve analgesics (pain killer) to reduce pain; Document the time lapse of the seizure and report to the in-charge; Inform the person what happened and ask him/her to seek medical attention; Help patient by chatting with him/her so that they feel a sense of belongingness.”

These responses points to the fact that nurses who were the participants for this study have a good practical idea as to what to do for a person who has just suffered a fit.

Shehata and colleagues (2015) in contributing to support the findings of this research stated that the most important nursing intervention is to keep up an adequate airway, breathing and circulation during seizures and to prevent any injury of the patients with epilepsy. Also, an oral airway suction apparatus should be available at bedside at all times. Choc Epilepsy Center (n.d.) affirms these responses in this study by noting that when seizure has finally subsided, orient the patient to time, place and persons, if confused.

5.4.1.4 Counselling a person with epilepsy

When the nurses knowledge of counselling a person with epilepsy was assessed, the results showed that 33 (32.4%) recommended avoiding alcohol, 27 (26.5%) would counsel the patient to take prescribed drugs and 26 (25.5%) would counsel patients to avoid heights; 15 (14.7%) said patients should get plenty of sleep while regular exercise was recommended by 11 (10.8%) of the nurses.



In corresponding to the above findings, Nursing File (2010) encourages people with epilepsy to have enough sleep to prevent attacks. To sustain the discussion, patients should be encouraged to participate in exercise under the supervision of trained personnel (Coker, et al., 2011).

This led to investigating the strength of association between the socio-demographic characteristics and practices on epilepsy, and it tends out that the variable that influence practice was the area of specialty (RMN) ($p=0.001$). Besides, the bivariate analysis on attitude and practice indicated good attitude ($p=0.008$) was statistically significant to the study.

5.4.2 Preferred treatment of epilepsy

This section of the study was to look at the choice of treatment, and drugs used in managing the disease.

5.4.2.1 Choice of treatment

For this study 41 (40.2%) nurses responded traditional/herbal treatment for an epileptic patient, 34(33.3%) respondents recommended orthodox medicine. Prayer camp healing was recommended by 20 (19.6%) nurses. Fetish healing and animal sacrifice were recommended by 15 (14.7%) and 7 (6.9%) nurses respectively. Though majority of the nurses in this study positively agreed to the fact that epilepsy is treatable, the minority for this item options would recommend traditional healing, orthodox medicine, and prayer camp healing as the preferred treatment options amongst others.

Due to misconceptions about the aetiology of epilepsy as responded to by some respondents that the disease might have been caused by witchcraft or evil intent



machination by someone who hates the epileptic, PWE may seek cure from traditional healers rather than seeking preventative or biomedical treatment. This notion is rooted in the spiritual model (Mbuba, & Newton, 2009). In support of the findings of this research, Maiga and colleagues (2014) found that the traditional healer is the first person to be consulted when a child has a seizure and this was reported by 63 percent of parents with a child with epilepsy in their study. In support of these findings, Winkler and associates (2010) published that 44.3 percent of the interviewed people were convinced that epilepsy could be treated by traditional healing method. Besides, 4.2 percent of the interviewed people thought that treatment by herbalist may improve symptoms as well as eliminate the cause of epilepsy, while 4.8 percent were convinced that symptoms from epilepsy could be alleviated by herbal medicine. Accompanying this revelation, 14.4 percent were convinced that Christian prayers could influence cause and symptoms of epilepsy, and 19.8 percent thought that the cause of epilepsy only could be treated by prayers (Winkler, et al., 2010). Following this disclosure in support of the findings of this research were the views of patients, relatives, and neighbours who thought that prayers could help cure the symptoms and cause of epilepsy and their responses were represented respectively 11.9 percent, 11.3 percent, and 58.3 percent (Ismail, et al., 2005). Ismail and colleagues (2005) concluded on this disclosure that people turned to religio-spiritual treatments in desperation for a cure, often under the influence of their families after the perceive failure of Western medicine. Such treatments are viewed as complementary rather than as an alternative to Western medication.

Demonstrating pluralistic care seeking behavior, a study in Kilimanjaro Region, Tanzania that stated, that nearly all PWE use of prayers and consulting traditional healers alongside



modern hospital care (Mushi, et al., 2011). In buttressing this fact, a study by Appiah-Poku and others (2004) found that 31 percent had seen a pastor and 23 percent had seen a traditional healer in addition to seeking medical assistance. However, Winkler and associates (2010) published that only 54.1 percent of their interviewed people gave their opinion as to which healing method could help. They said the other 55.7 percent thought that traditional medicine had no positive influence on epilepsy.

5.4.2.2 Drugs used to manage epilepsy

Though some of the nurses in this study complained of lack of supply of AEDs from the district medical store, as also confirmed by Munthali and colleagues (2013) who stated that in seeking care for epilepsy, people are forced to seek treatment from traditional healers for general lack of medicines in the health facilities, as a doctor told the patient there were no medicines in the health facility for epilepsy, some of the agents mentioned by the nurses in this study included Phenobarbitone (Phenobarb) 35 (34.3%), Diazepam (Valium) 20 (19.6%), Carbamazepine (Tegretol) 15 (14.7%) and Phenytoin (Epanutin) 25 (24.5%) among other drugs. It is therefore worth mentioning that at least the nurses were aware of some of the AEDs; therefore, managing cases of seizure attacks in their community clinics should not be a problem.



CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.0 Overview

This chapter presents the summary, conclusion and recommendations of the study.

6.1 Summary of the key findings

Epilepsy is one of the world's oldest known brain disorders among several medical conditions (Al-Adawi, Al-Maskari, Martin, Al-Naamani, Al-Riyamy, & Al-Hussaini, 2000; Epilepsy Foundation, 2017). A recent study has indicated that 70 million people are estimated to suffer from this disease (Verma & Vankar, 2016). Persons with epilepsy are at risk of developing a variety of psychological problems including depression, anxiety and psychosis (Kabir, Iliyasu, Abubakar, Kabir, & Farinyaro, 2005). Despite the increase education and health care, some health professionals continue to linger in darkness about cause and treatment options of the disease. Efforts to improve care of people living with epilepsy are a major concern, as little has been done to identify the extent of subjective knowledge, attitude and practice among nurses. The intention of this research was to study the nurses within the Asutifi North District with the aim of understanding their subjective experiences and knowledge on epilepsy in a socio-cultural context and how their attitude shaped their practice towards people with epilepsy.

The results of this study indicated that 69 (67.7%) of the nurses responded "Yes" they are aware of the causes epilepsy. Also 84 (82.4%) of the nurses suspect PWE to have mental illness.



The socio-demographic characteristics of religion (Muslim) ($p=0.017$), area of speciality (RMN) ($p=0.045$) as well as close family relationship with epilepsy ($p=0.001$) were significantly associated with knowledge on epilepsy. Factors that were found to influence attitude towards epilepsy were sex (Female) ($p=0.037$), religion (Muslim) ($p=0.012$) and specialty area (RMN) ($p=0.054$). The area of specialty statistically influences their practices on epilepsy ($p=0.001$). There was no statistically significant association between knowledge on epilepsy and practice ($p=0.134$). However, attitude significantly related to practices on epilepsy ($p=0.008$) and indicated that poor attitude was more likely to be associated with poor practice.

Though the nurses are aware of the causes of epilepsy, 41 (40.2%) of them opted traditional or herbal treatment for an epileptic patient, 34 (33.3%) respondents recommended orthodox medicine, and prayer camp healing was accentuated by 20 (19.6%). Despite the lack of supply of AEDs from the district medical store, some of the agents mentioned by the nurses in the management of epilepsy for this research include Phenobarb, Valium, Tegretol and Epanutin among other drugs. Therefore, managing cases of seizure attacks in the communities should not be a problem for the nurses.

6.2 Conclusion

Nurses at the Asutifi North District tended to have low knowledge, attitude and practices on epilepsy. It is important to improve training and health care delivery for epilepsy. This is because there still exist cultural beliefs among some of the nurses on the spread of the disease as heredity, spiritual possession and curse. These serve as a drawback to the



positive attitudes shown towards epilepsy. It is therefore important to improve training and health care delivery for epilepsy.

6.3 Recommendations

Based on the findings of this research, the following are recommended:

1. The Ministry of Health and the Nurses Training Institutions in this country should enhance nursing education and training on epilepsy in order improve health care delivery for people living with the disease.
2. Various health training schools in the country running courses in health education and health promotion should emphasize the importance of knowing the possible causes and treatment of the disease in the communities.
3. Health education and health promotion programs should be geared towards destigmatizing epilepsy among health professionals and the general public.

6.4 Further research

I suggest that further research should be conducted on “Stigma and discrimination: The health implication for people with epilepsy.”



REFERENCES

- Adamolekun, B. (1997). *Epilepsy: A comprehensive textbook* (2nd edition). Nigeria: Lagos Press.
- Adjei, P., Akpalu, A., Laryea, R., Nkromah, K., Sottie, C., Ohene, S., & Osei, A. (2013). Beliefs on epilepsy in Northern Ghana. *Epilepsy and Behavior*, 29(2): pages 316-321. doi: <http://dx.doi.org/10.1016/j.yebeh.2013.07.034>.
- Ae-Ngibise, K. A., Akpalu, B., Ngugi, A., Akpalu, A., Agbokey, F., Adjei, P., Punguyire, D., Bottomley, C., Newton, C., & Owusu-Agyei, S. (2015). Prevalence and risk factors for active convulsive epilepsy in Kintampo, Ghana. *Pan African Medical Journal*, 21: page 29. doi:10.11604/pamj.2015.21/29.6084.
- Ahmad, M. (2011). Epilepsy and stigma management. *Current Research in Neuroscience*, 1(1):1-14. doi:10.3923/crn.2011.1.14.
- Ahmed, N. I, Aly, S. A., & Shaaban, E. M. (1994). The nurses' knowledge and attitudes about epilepsy. *Journal of Egypt Public Health Association*, 69(3-4): pages 277-92. Retrieved January 19, 2018 from <https://www.ncbi.nlm.nih.gov/pubmed/17265643>.
- Ajibade, B. L., Fabiyi, B., Ajao, O. O., Olabisi, O. I., & Akinpelu, A. O. (March, 2016). Public attitude and social support towards people living with epilepsy (PWE) amongst communities, in a selected local government of Oyo State, Nigeria. *International Journal of Nursing, Midwife and Health Related Cases*, 2(1): pages 18-48. Retrieved January 20, 2018 from <http://www.eajournals.org/wp-content/uploads/Public-Attitude-and-Social-Support-towards-People-Living-With-Epilepsy-PWE-Amongst-Communities.pdf>.



- Al-Adawi, S. H. N., Al-Maskari, M. Y., Martin, R. G., Al-Naamani, A. N. H., Al-Riyami, K. A., & Al-Hussaini, A. A. A. (2000). Attitudes of Omani physicians to people with epilepsy. *Neurosciences*, 5(1): 18-21.
- Al-Hashemi, E., Ashkanani, A., Al-Qattan, H., Mahmoud, A., Al-Kabbani, M., Al-Juhaidli, A., Jaafar, A., & Al-Hashemi, Z. (2016). Knowledge about epilepsy and attitudes toward students with epilepsy among middle and high school teachers in Kuwait. *International Journal of Pediatrics*, Volume 2016, Article ID 5138952, 15 pages. doi: <http://dx.doi.org/10.1155/2016/5138952>.
- Almeida-Filho, N., Andreasen, N., Birbeck, G., Chisholm, D., Goldberg, D., Groce, N., Hachinski, V., [...], & Weissman, M. (Reviewers). (2001). *Neurological, psychiatric, and developmental disorders: Meeting the challenge in the developing world*. Washington, DC: National Academy of Sciences. doi: <https://doi.org/10.17226/10111>.
- Anderman, L. F. (1999). Epilepsy in Different Cultures: Epilepsy in Developing Countries. *Epilepsy Awareness*, 10(2), pp 272.
- Appiah-Poku, J., Laugharne, R., Mensah, Y., Osei, Y., & Burns, T. (2004). Previous help sought by patients presenting to mental health services in Kumasi, Ghana. *Society of Psychiatry and Psychiatry Epidemiology*, 39: 208–211. doi:10.1007/s00127-004-0725-9.
- Atlas of Epilepsy Care in the World (2005). Geneva: WHO Press.
- Austin, J. K., Shafer, P. O., & Deering, J. B. (2002a). Epilepsy familiarity, knowledge and perceptions of stigma: report from a survey of adolescents in the general population. *Epilepsy and Behavior*, 3:368–375.



- Ba-Diop, A., Marin, B., Druet-Cabanac, M., Ngoungou, E. B., Newton, C. R., & Preux, P. M. (2014). Epidemiology, causes, and treatment of epilepsy in Sub-Saharan Africa. *The Lancet Neurology*, *13*(10): pages 1029-1044. doi: [https://doi.org/10.1016/S1474-4422\(14\)70114-0](https://doi.org/10.1016/S1474-4422(14)70114-0).
- Baskind, R., & Birbeck, G. (2005). Epilepsy Care in Zambia: A Study of traditional healers. *Epilepsia*, *46*(7): pages 1121-1126. Retrieved February 1, 2018 from <http://onlinelibrary.wiley.com/doi/10.1111/j.1528-1167.2005.03505.x/epdf>.
- Bell, S. H. (June, 2009). *The prevalence of epilepsy and seizures in subjects with fetal alcohol spectrum disorders*. A thesis submitted to the Centre for Neuroscience Studies in conformity with the requirements for the degree of Master of Science, Queen's University, Kingston, Ontario, Canada. Retrieved July 12, 2018 from <https://pdfs.semanticscholar.org/00ee/38731266f97c3ed442cbc63780f88cb56421.pdf>.
- Bevers, K., Watts, L., Kishino, N. D., & Gatchel, R. J. (2016). The biopsychosocial model of the assessment, prevention, and treatment of chronic pain. *US Neurology*, *12*(2): 98-104. doi: <https://doi.org/10/17925/USN.2016.12.02.98>.
- Birbeck, G. L. (2000). Seizures in Rural Zambia. *Epilepsia*, *41*(3). 277-281. Philadelphia: Lippincott Williams & Wilkins, Inc.
- Buelow, J. M., Privitera, M., Levisohn, P., & Barkley, G. L. (July, 2009). A description of current practice in epilepsy monitoring units. *Epilepsy and Behaviour*, *15*(3): pages 308-13. doi: 10.1016/j.yebeh.2009.04.009.
- Cassano, P. A., Koepsell, T. D., & Farwell, J. R. (September, 1990). Risk of febrile seizures in childhood in relation to prenatal maternal cigarette smoking and



alcohol intake. *American Journal of Epidemiology*, 132(3): pages 462–473. doi: <https://doi.org/10.1093/oxfordjournals.aje.a115681>.

Cervasio, K., & Fatata-Hall, K. (2013). Attitudes of nurses toward children with disabilities: The attitudes of nursing students toward children with disabilities: An experimental design. *International Journal of Physical Medicine & Rehabilitation*, 1(1): 1-15. doi: 10.4172/2329-9096.1000140.

Chilopora, G. C., Kayange, N. M., Nyirenda, M., & Newman, P. K. (2001). Attitudes to epilepsy in Malawi. *Malawi Medical Journal* (pdf): pages 6-8.

Choc Epilepsy Center. (n.d.). *Managing children with epilepsy: School nurse guide*. Retrieved January 28, 2018 from <https://www.choc.org/userfiles/file/EpilepsyHandbook.pdf>.

Chomba, E. N., Haworth, A., Atadzhanove, M., Mbewed, E., & Birbeck, G. L. (February, 2007). Zambian health care workers' knowledge, attitudes, beliefs, and practices regarding epilepsy. *Epilepsy and Behaviour*, 10(1): pages 111-119. doi:10.1016/j.yebeh.2006.08.012.

Coker, M. F., Bhargava, S., Fitzgerald, M., & Doherty, C. P. (2011). What do people with epilepsy know about their condition? Evaluation of a subspecialty clinic population. *Seizure*, 20: 55–59. Retrieved January 30, 2018 from [http://www.seizure-journal.com/article/S1059-1311\(10\)00238-4/pdf](http://www.seizure-journal.com/article/S1059-1311(10)00238-4/pdf).

Coleman, R., Lopy, L., & Walraven, G. (2002). The treatment gap and primary health care for people with epilepsy in rural Gambia. *Bulletin of the World Health Organisation*, 80(5). Retrieved February 1, 2018 from



https://www.scielo.org/scielo.php?pid=S0042-96862002000500008&script=sci_arttext&tlng=en.

Cruz, I., Bossano, F., & Cruz, M. E. (1991). Factores de riesgo para la epilepsia en una comunidad andina del Ecuador. In: *Academia Ecuatoriana de Neurociencias*, Cruz, M. E. (Ed.). Control Comunitario de la Epilepsia. Quito.

Dayapoğlu, N., & Tan, M. (August, 2016). Clinical nurses' knowledge and attitudes toward patients with epilepsy. *Epilepsy and Behaviour*, 61: pages 206-209. doi: 10.1016/j.yebeh.2016.05.009.

Dogar, I. A. (2007). Biopsychosocial model. *Annals of Punjab Medical College*, 1(1):11-13.

Dung, A. A. D., Singh, H. K., Kumari, S., Gupta, M., Raval, M., & Rajender, G. (October, 2009). Knowledge, Attitude and Perception of Caregivers of Children with Epilepsy. *Delhi Psychiatry Journal*, 12(2), 274-275. Retrieved January 30, 2017 from <http://www.medind.nic.in/daa/t09/i2/daat092ip274.pdf>.

Ekeh, B. C., & Ekrikpo, U. E. (2015). The knowledge, Attitude, and Perception towards Epilepsy amongst Medical Students in Uyo, Southern Nigeria. *Advances in Medicine*, Volume 2015, Article ID 876135, 6 pages. doi: <http://dx.doi.org/101155/2015/876135>.

Ellis, M. E., & Cherney, K. (June 21, 2017). *12 famous faces of epilepsy*. Healthline newsletter. Retrieved January 21, 2018 from <https://www.healthline.com/health/celebrities-epilepsy>.

Epilepsy Foundation. (2017). *International Epilepsy Day 2017 – February 13th, Putting Epilepsy in the Picture*. Retrieved February 14, 2017 from



<http://www.epilepsy.com/make-difference/get-involved/international-epilepsy-day>.

Epilepsy Society (n.d.). *List of anti-epileptic drugs*. Retrieved July 4, 2018 from <https://www.epilepsysociety.org.uk/list-anti-epileptic-drugs>.

Eseigbe, E. E., Enogela, J., Adama, S. J., Nuhu, F. T., Sheikh, T. L., & Eseigbe, P. (2015). Perspectives of mothers on childhood epilepsy in Kaduna, Northern Nigeria. *Sub-Saharan African Journal of Medicine*, 2(1): 39-46. doi:10.4103/2384-5147.150470.

Falavigna, A., Teles, A. R., Roxo, M. R. R., Velho, M. C., da Silva, R. C., Mazzocchin, T., & Vedana, V. M. (March, 2009). Awareness and attitudes on epilepsy among undergraduate health care students in Southern Brazil. *Journal of Epilepsy Clinical Neurophysiology*, 15(1):19-23. doi: <http://dx.doi.org/10.1590/S1676-26492009000100005>.

Fernandes, P. T., Snape, D. A., Beran, R. G., & Jacoby, A. (2011). Epilepsy stigma: What do we know and where next? *Epilepsy and Behavior*, 22: 55-62. doi:10.1016/j.yebeh.2011.02.014.

Fernandes, P. T., Cabral, P., Araujo, U., Noronha, A. L. A., & Li, M. L. (2005). Kids' perception about epilepsy. *Epilepsy and Behaviour*, 6: pp 601-603.

Fisher, R. S. (2014). *A revised definition of epilepsy*. Epilepsy Foundation. Retrieved February 17, 2017 from www.epilepsy.com/article/2014/4/revised-definition-epilepsy.

Fisher, R. S., Acevedo, C., Arzimanoglou, A., Bogacz, A., Cross, J. H., Elger, C. E., Engel, J. Jr., Forsgren, L., French, J. A., Glynn, M., Hesdorffer, D. C., Lee, B. I.,



Mathern, G. W., Moshé, S. L., Perucca, E., Scheffer, I. E., Tomson, T., Watanabe, M., & Wiebe, S. (2014). A Practical Clinical Definition of Epilepsy. *Epilepsia*, 55:475–482.

Ghana Broadcasting Corporation. (2015). *Health*. Posted July 12, 2016 at 10:12pm. Accessed December 3, 2016 from <http://www.myghanaonline.com/1/9518600>.

Ghana Health Service. (2015). *Dr. Patrick Adjei speaks on epilepsy stigmatization*. Accessed December 3, 2016 from <http://www.ghanahealthservice.org/ghs-item-details.php?acid=22&iid=111>

Ghana Health Service. (2016). *DHIMS*. Retrieved December 5, 2016 from <https://dhims.chimgh.org/dhims/dhis-web-pivot/>.

Ghana News Agency. (September 29, 2015). *Ghana rolls interventions to manage epilepsy*. Accra: Ghana Health Service. Retrieved January 27, 2018 from <http://www.ghananewsagency.org/health/ghana-rolls-interventions-to-manage-epilepsy-95025>.

Ghana Statistical Service. (October 2014). *2010 population and housing census: Analytical report – Asutifi North District*. Accra: Author.

Ghanean, H., Nojomi, M., & Jacobsson, L. (2013). Public awareness and attitudes towards epilepsy in Tehran, Iran. *Global Health Action*, 6(1), 21618. doi: 10.3402/gha.v6i0.21618. doi: <https://doi.org/10.3402/gha.v6i0.21618>.

Goel S., Singh, N., Lal, V., & Singh, A. (2013). Knowledge, attitude and practices of students about first aid epilepsy seizures management in a Northern Indian City. *Annals of Indian Academy of Neurology*, 16(4): 538–543. doi: 10.4103/0972-2327.120459.



- Goel, D., Dhanai, J. S., Agarwal, A., Mehlotra, V., & Saxena, V. (2011). Knowledge, attitude and practice of epilepsy in Uttarakhand, India. *Annals of Indian Academy of Neurology*, 14(2): 116-119. doi:10.4103/0972-2327.82799. PMID: PMC3141474.
- Goodman, M. H. (Ed.). (2004). *What causes seizures? The triggering factor*. New York: Glencoe.
- Health Grades (2014). *Statistics by country for epilepsy*. Retrieved December 3, 2016 from <http://www.rightdiagnosis.com/e/epilepsy/stats-country.htm#extrapwarning>.
- Hosseini, N., Sharif, F., Ahmadi, F., & Zare, M. (2016). Determining the disease management process for epileptic patients: A qualitative study. *Iranian Journal of Nursing and Midwifery Research*, 21(1): 54-62. doi:10.4103/1735-9066.174748.
- Illingworth, J. L., Watson, P., & Ring, H. (October, 2014). Why do seizures occur when they do? Situations perceived to be associated with increased or decreased seizure likelihood in people with epilepsy and intellectual disability. *Epilepsy and Behaviour*, 39:78-84. doi:10.1016/j.yebeh.2014.08.016.
- Instah Health and Wellness. (2017). *Top 10 health benefits of prekese*. Retrieved March 06, 2018 from <http://www.instah.com/herbs/top-10-health-benefits-prekese/>.
- Ismail, H., Wright, J., Rhodes, P., & Small, N. (2005). Religious beliefs about causes and treatment of epilepsy. *British Journal of General Practice*, 55(510): 26-31. Retrieved February 4, 2018 from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1266239/>.



- Jones, B. (1983). Counselling the epileptic patient. *Canadian Family Physician*, 29: 107–111. Retrieved January 30, 2018 from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2153557/pdf/canfamphys00227-0109.pdf>.
- Kabir, M., Iliyasu, Z., Abubakar, I. S., Kabir, Z. S., & Farinyaro A. U. (2005). Knowledge, attitude and beliefs about epilepsy among adults in a Northern Nigerian urban community. *Annals of African Medicine*, 4(3): pp 107-112. Accessed January 18, 2018 from <http://www.bioline.org.br/request?am05028>.
- Karimi, N., & Akbarian, S. A. (2016). Knowledge and attitude toward epilepsy of close family members of people with epilepsy in North of Iran. *Advances in Medicine*, Volume 2016, Article ID 8672853, 6 pages. doi: <http://dx.doi.org/10.1155/2016/8672853>.
- Kassie, G. M., Kebede, T. M., & Duguma, B. K. (August, 2014). Knowledge, attitude, and practice of epileptic patients towards their illness and treatment in Jimma University Specialized Hospital, Southwest Ethiopia. *North American Journal of Medical Sciences*, 6(8): pages 383-390. doi:10.4103/1947-2714.139288.
- Ko, D. Y. (January 09, 2018). *Epilepsy and seizures treatment and management*. Retrieved from January 30, 2018 from <https://emedicine.medscape.com/article/1184846-treatment>.
- Krauss, G. (November/December, 2014). Epilepsy Is Not Resolved. *Epilepsy Currents*, Vol. 14, No. 6: pp. 339–340. American Epilepsy Society.



- Li, S. C., & Schoenberg, B. S. (1987). Risk factors for epilepsy in China and other developing countries. *Chinese Medical Journal (English)*, 100(10): pages 813–815.
- Lunardi, M. S., de Souza, P. S., Xikota, J. C., Walz, R., & Lin, K. (2012). Epilepsy perception amongst education professionals. *Journal of Epilepsy and Clinical Neurophysiology*, 18(3): pages 79-84 doi: <http://dx.doi.org/10.1590/S1676-26492102000300003>.
- Maiga, Y., Albakaye, M., Diallo, L. L., Traoré, B., Cissoko, Y., Hassane, S., Diakite, S, Clare McCaughey, K., [...], & Carmant, L. (2014). Current beliefs and attitudes regarding epilepsy in Mali. *Epilepsy and Behavior*, 33: pages 115-121. doi: <https://doi.org/10.1016/j.yebeh.2014.02.031>.
- Masoudnia, E. (2009). Awareness, understanding and attitudes towards epilepsy among Iranian ethnic groups. *Seizure, Volume 18, Issue 5: Pages 369-373*. doi: <https://doi.org/10.1016/j.seizure.2009.01.009>.
- Mbuba, C K., & Newton, C. R. (2009). Packages of care for epilepsy in Low- and Middle-income Countries. *PLoS Medicine* 6(10): e1000162. doi:10.1371/journal.pmed.1000162.
- Millogo, A., & Siranyan, A. S. (March, 2004). Knowledge of epilepsy and attitudes towards the condition among schoolteachers in Bobo-Dioulasso (Burkina Faso). *Epileptic disorders*, 6(1); 21-26. Retrieved January 18, 2018 from http://www.jle.com/fr/revues/epd/e-docs/knowledge_of_epilepsy_and_attitudes_towards_the_condition_among_schoolteachers_in_bobodioulasso_burkina_faso__262369/article.phtml?tab=texte.



- Millogo, A., Ratsimbazafy, V., Nubukpo, P., Barro, S., Zongo, I., & Preux, P. M. (April, 2004). Epilepsy and traditional medicine in Bobo-Dioulasso (Burkina Faso). *Acta Neurologica Scandinavica*, Volume 109, Issue 4; Pages 250–254. doi:10.1111/j.1600-0404.2004.00248.x.
- Ministry of Health. (2010). *Ghana essential medicines list* (6th edition). Accra: Ministry of Health, Ghana National Drugs Programme (GNDP). Retrieved February 7, 2018 from <http://apps.who.int/medicinedocs/documents/s18014en/s18014en.pdf>.
- Ministry of Local Government and Rural Development (December, 2013). *Asutifi North District Assembly: District Medium Term Development Plan and Budget 2014 – 2017*. Prepared by District Planning and Co-ordinating Unit.
- Morris, H. (1998). *Basic statistics* (3rd edition). San Diego: Harcourt Brace Jovanovich (HJB) Publishers.
- Moselhy, H. F. (2011). Psychosocial and Cultural Aspects of Epilepsy. In *Novel Aspects on Epilepsy*. Foyaca-Sibat, H. (Ed.). Available from <http://www.intechopen.com/books/novel-aspects-on-epilepsy/psychosocial-and-cultural-aspects-of-epilepsy>.
- Munthali, A., Braathen, S. H., Grut, L., Kamaleri, Y., & Ingstad, B. (2013). Seeking treatment for epilepsy and its impact on households in rural district in Southern Malawi. *African Journal of Disability*, 2(1): pages 1-8. doi: <http://dx.doi.org/10.4102/ajod.v2i1.54>.
- Mushi, D., Hunter, E., Mtuya, C., Mshana, Aris, E., & Walker, R. (2011). Social-cultural aspects of epilepsy in Kilimanjaro Region, Tanzania: Knowledge and experience



among patients and carers. *Epilepsy and Behavior*, 20(2): pages 338-343. doi: <https://doi.org/10.1016/j.yebeh.2010.11.016>.

Mustapha, A. F., Odu, O. O., & Akande, O. (2013). Knowledge, attitudes and perceptions of epilepsy among secondary school teachers in Osogbo South-West Nigeria: A community based study. *Nigerian Journal of Clinical Practice*, 16(1): pages 12-18. doi:10.4103/1119-3077.106709.

Neni, S. W., Latif, A. Z. A., Wong, S. Y., & Lua, P. L. (2010). Awareness, knowledge and attitudes towards epilepsy among rural populations in East Coast Peninsular Malaysia: A preliminary exploration. *Seizure*, 19, 280-290. doi:10.1016/j.seizure.2010.04.006.

Newton, C. R., & Garcia, H. H. (2012). Epilepsy in poor regions of the world. *The Lancet*, 380(9848): 1193-1201. doi: [http://dx.doi.org/10.1016/S0140-6736\(12\)61381-6](http://dx.doi.org/10.1016/S0140-6736(12)61381-6). Retrieved January 26, 2018 from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)61381-6/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)61381-6/fulltext).

Njamnshi, A. K., Tabah, E. N., Bissek, A. C. Z. K., Yepnjio, F. N., Angwafor, S. A., Dema, F., Fonsah, J. Y., Tatah, G, [...], & Muna, W. F. T. (2010). Knowledge, attitudes and practices with respect to epilepsy among student nurses and laboratory assistants in the South West Region of Cameroon. *Epilepsy and Behavior*, Volume 17, Issue 3: pages 381-388. doi: <https://doi.org/10.1016/j.yebeh.2009.12.027>.



- Nursing File (2010). *Nursing interventions for epilepsy*. Retrieved January 28, 2018 from <http://nursingfile.com/nursing-care-plan/nursing-interventions/nursing-interventions-for-epilepsy.html>.
- Nyame P. K., & Biritwum, R. B. (1997). Epilepsy: Knowledge, attitude and practice in literate urban population, Accra, Ghana. *West Africa Journal of Medicine*, 16(3): pp 139-145.
- Ogunniya, A., Osuntokun, B. O., Bademosi, O., Adeuja, A. O. G., & Schoenberg, B. S. (1987). Risk factors in epilepsy: Case control study in Nigerians. *Epilepsia*, 28: pages 280-285.
- Olotu, V., Shankar, R., & Bernal, J. (n.d.). *Epilepsy. Intellectual Disability and Health*. UK: University of Hertfordshire. Retrieved January 20, 2018 from <http://www.intellectualdisability.info/physical-health/articles/epilepsy>.
- Olubunmi, M. B. (2009). Attitude towards Epilepsy and Mental Illness in Ekiti State, Nigeria. *African Research Review*, 3(1): pages 1-12. Retrieved January 28, 2018 from <https://www.ajol.info/index.php/afrev/article/download/43551/27074>.
- Ovsiew, F. (1994). *Neuropsychiatry of epilepsy*. Basle: Ciba-Geigy Limited.
- Owusu-Aboagye, M. (01-08-2015). *Epilepsy not demonic; can be treated for ₵30 a year – Dr Ohene*. Ghana Multi TV. Time: 04:08:43:pm. Retrieved December 3, 2016 from <http://www.myjoyonline.com/news/2015/August-1st/epilepsy-not-demonic-can-be-treatd-for-30-a-year-dr-ohene.php>.
- Paschal, A. M., Hawley, S. R., Romain, T. S., & Ablah, E. (2008). Measures of adherence to epilepsy treatment: Review of present practices and



recommendations for future directions. *Epilepsia*, 49(7):1115-1122. doi: 10.1111/j.1528-1167.2008.01645.x.

Ring, H. (2013). Epilepsy in intellectual disabilities. *Advances in Clinical Neuroscience and Rehabilitation*, 13(5): 14-15.

Rumsey, D. J. (2016). *Statistics for dummies* (2nd ed.). Ohio: John Wiley & Sons.

Rwiza, H.T., Matuja, W.B., Kilonzo, G.O., Haule J., Mbena P., et al. (1993). Knowledge, attitude and practice toward epilepsy among rural Tanzanian residents. *Epilepsia*, 34(6), pp 1017-1023.

Sahni, P. (2002). *Epilepsy in Africa and the African American Community*. Ontario: Diversity resources, Inc.

Saint George's University Hospital. (2015). *Advice for patients who have epilepsy and/or seizures*. United Kingdom: National Foundation Trust. Retrieved January 30, 2018 from <http://www.epilepsy.org.uk/info/firstaid>.

Santrock, J. W. (2007). *A topical approach to human life-span development* (3rd edition). St. Louis, MO: McGraw-Hill.

Scott, D. (1969). *About Epilepsy*. London: Gerald Duckworth and Co. Limited.

Senga, P., Mayanda, H. F., & Nzingoula, S. (1985). Profile of seizures in infants and young children in Brazzaville (Congo). *Annales de Pediatrie*, 32: pages 477-480.

Sengar, R. S. (2012). *Models of mental illness. A seminar PowerPoint presentation, India*. August 2, 2012.

Shafer, P. O. (2017). *Tips for lifestyle modification*. USA: Epilepsy Foundation of America. Retrieved January 30, 2018 from



<https://www.epilepsy.com/learn/managing-your-epilepsy/managing-triggers/tips-lifestyle-modification>.

Shafer, P. O., & Sirven, J. I. (2013). *Epilepsy statistics*. Published by Epilepsy Foundation. Retrieved December 3, 2016 from <http://www.epilepsy.com/learn/epilepsy-statistics>.

Shahbo, G. M. A. E. M., Bharathi, B., & Daoala, A. L. (2014). A comparative study on knowledge, attitude and believes of epilepsy among communities of Egypt and Kingdom of Saudi Arabia. *IOSR Journal of Nursing and Health Science*, 3(5) Ver. I, 97-107. Available at www.iosrjournals.org.

Sharkawy, G. E., Newton, C., & Hartley, S. (February, 2006). Attitudes and practices of families and health care personnel toward children with epilepsy in Kilifi, Kenya. *Epilepsy and Behaviour*, 8(1): pages 201–212. doi: <https://doi.org/10.1016/j.yebeh.2005.09.011>.

Shehata, G. A., El-Lateef, Z. A., Ghanem, H. M., & El-Masry, M. A. (2015). Knowledge, attitude and practice regarding people with epilepsy among nurses. *Aktualności Neurologiczne, Volume 15*, Issue 4: pages 192-198. doi:10.15557/AN.2015.0025.

Shorvon, S., Perucca, E., & Engel, Jr., J. (2016). *The treatment of epilepsy* (4th edition). West Sussex, UK: John Wiley and Sons, Ltd. Retrieved February 07, 2018 from <http://shorvon.eu/wp-content/uploads/2017/07/Treatment-of-epilepsy-4th-edition-Historical-Introduction.pdf>.

Sureka, R. K., Agarwal, A., Chaturvedi, S., Yadav, K. S., & Kumar, S. (October 26, 2015). Knowledge, attitude and practice of epilepsy among nursing faculty and students in a tertiary care center in Rajasthan. *Journal of Evidence based*



Medicine and Healthcare, 2(43): pages 7673-7679.
doi:10.18410/jebmh/2015/1037.

Teferi, J., & Shewangizaw, Z. (May, 2015). Assessment of knowledge, attitude, and practice related to epilepsy: a community-based study. *Neuropsychiatric Disease and Treatment*, 11, 1239-1246. doi:10.2147/NDT.S82328.

Theodore, W. H., Spencer, S. S., Wiebe, S., Langfitt, J. T., Ali, A., Shafer, P. O., Berg, A., T., & Vickrey, B. G. (November, 2006). Epilepsy in North America: A Report Prepared under the Auspices of the Global Campaign against Epilepsy, the International Bureau for Epilepsy, the International League Against Epilepsy, and the World Health Organization. *Epilepsia*, 47(10):1700-22. Blackwell Publishing, Inc. International League Against Epilepsy. doi:10.1111/j.1528-1167.2006.00633.x.

Tidy, C. (2015). *Treatments of epilepsy*. Retrieved January 31, 2018 from <https://patient.info/health/epilepsy-and-seizures/treatment-for-epilepsy>.

Ultimate FM. (2017). Stop tagging epileptic patients as cursed – Dr. Ruth Antwi. *Health News of Monday, 13 February, 2017*. Retrieved February 13, 2017 from <http://www.ghanaweb.com/GhanaHomePage/health/Stop-tagging-epilepsy-as-cursed>.

Vancini, R. L., Benedito-Silva, A. A., Sousa, B. S., da Silva, S. G., Souza-Vancini, M. I., Vancini-Campanharo, C. R., Cabral, F. R., de Lima, C., & de Lira, C. A. B. (2012). Knowledge about epilepsy among health professionals: a cross-sectional survey in São Paulo, Brazil. *British Medical Journal Open*, 2:e000919. doi:10.1136/bmjopen-2012-000919.



- Verma, G., & Vankar, G. K. (November, 2016). Does a didactic lecture on epilepsy for nursing students improve knowledge and attitude? *International Journal of Science and Research (IJSR)*, 5(11): 992-994. Retrieved January 27, 2018 from <https://www.ijsr.net/archive/v5i11/ART20162919.pdf>.
- Vestergaard, M., Wisborg, K., Henriksen, T. B., Secher, N. J., Østergaard, J. R., & Olsen, J. (2005). Prenatal Exposure to Cigarettes, Alcohol, and Coffee and the Risk for Febrile seizures. *Pediatrics*, 116: 1089-1094. doi: 10.1542/peds.2004-2210. The online version of this article is located on at <http://pediatrics.aappublications.org/content/116/5/1089.full.html>.
- Wehrle, L. (20 May, 2003). Epilepsy: Its presentation and nursing management. *Nursing Times*. Retrieved January 30, 2018 from <https://www.nursingtimes.net/clinical-archive/long-term-conditions/epilepsy-its-presentation-and-nursing-management/205448.article>.
- WHO. (2004). *Epilepsy in the WHO African Region: Bridging the gap*. Geneva: Author.
- WHO. (2010). *Epilepsy in the WHO Eastern Mediterranean Region: Bridging the gap*. Geneva: Author. ISBN: 978-92-9021-696-4.
- WikiHow (n.d.). *WikiHow to Calculate Sample Size*. Retrieved February 11, 2017 from <http://m.wikihow.com/Calculate-Sample-Size>.
- Wikipedia (June, 2018). *Convulsion*. Retrieved July 13, 2018 from <https://en.m.wikipedia.org/wiki/Convulsion>.
- Wikipedia. (2017). *Biopsychosocial model*. Retrieved January 20, 2017 from https://en.wikipedia.org/wiki/Biopsychosocial_model.



- Winkler, A. S., Mayer, M., Ombay, M., Mathias, B., Schmutzhard, E., & Jilek-Aall, L. (2010). Attitudes towards African traditional medicine and Christian spiritual healing regarding treatment of epilepsy in a rural community of Northern Tanzania. *African Journal of Traditional, Complementary and Alternative Medicines*, 7(2): 162-170. Retrieved February 4, 2018 from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3021156/>.
- World Development Indicators (WDI). (2016). *Epilepsy in Ghana: Statistics on overall impact and specific effect on demographics*. World Bank. Retrieved December 3, 2016 from <http://www.global-disease-burden.healthgrove.com/I/55690/Epilepsy-in-Ghana>.
- World Health Organization. (2004). *Epilepsy in the WHO African Region: Bridging the Gap: The Global Campaign Against Epilepsy "Out of the Shadows"*. Brazzaville, Congo: WHO.
- World Health Organization. (2016). *Epilepsy: aetiology, epidemiology and prognosis*. Geneva: Author. Fact sheet N°165. Retrieved December 3, 2016 from <http://www.who.int/mediacentre/factsheets/fs999/en/>.
- Zainy, L. E., Atteyah, D. M., Aldisi, W. M., Abdulkarim, H. A., Alhelo, R. F., Alhelali, H. A., & Jan, M. M. (2013). Parents' knowledge and attitudes toward children with epilepsy. *Neurosciences*, Vol. 18(4): pages 345-348. Retrieved February 2, 2018 from http://www.neurosciencesjournal.org/_cgi-bin/DetailArticle.asp?ArticleId=11847.



APPENDICES

UNIVERSITY FOR DEVELOPMENT STUDIES, TAMALE
SCHOOL OF ALLIED HEALTH SCIENCES
DEPARTMENT OF PUBLIC HEALTH
MSC/MPHIL COMMUNITY HEALTH AND DEVELOPMENT

QUESTIONNAIRE

ON

KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING EPILEPSY AMONG
NURSES IN ASUTIFI NORTH DISTRICT

This Questionnaire is to help complete a study on knowledge, attitude and practice regarding epilepsy.

It would be appreciated if you could partake in this study and answer all questions.

All responses will be treated confidential.

NB: Please make a tick [✓] in the box provided for your response.

Thank you for your cooperation.



SECTION A

RESPONDENT'S BACKGROUND INFORMATION

1. Age

- a) 21 – 30 []
- b) 31 – 40 []
- c) 41 – 50 []
- d) 51 – 60 []

2. Sex

- a) Female []
- b) Male []

3. Religion

- a) Christianity []
- b) Moslem []
- c) Traditional []
- d) Others (specify):

4. Specialty area

- a) RGN []
- b) RMN []
- c) RM []
- d) CHN []
- e) Others (specify):

5. Do you have a close family member with epilepsy?



a) Yes []

b) No []

6. Is epilepsy treatable?

a) Yes []

b) No []

Give reasons for your answer:

.....

SECTION B

KNOWLEDGE ON EPILEPSY

PART 1. PERCEIVED CAUSAL FACTORS OF EPILEPSY

7. Are you aware of the causes of epilepsy?

a) Yes []

b) No []

8. If yes, what do you perceive to be the cause(s) of epilepsy to be? (You may select more than one option)

a) Curse []

b) Heredity []

c) Brain injury []

d) Witchcraft []

e) Birth trauma []

f) Spiritually possessed []

g) Brain infections []

h) Poisoning/bad blood []



9. Which of the following personal factors contribute to the development of epilepsy?

(You may select more than one option)

- a) Convulsions in childhood []
- b) High body temperature []
- c) Malaria []
- d) Parasitic/Bacterial infections []
- e) Others (specify):

10. Are the following maternal risk factors in epilepsy?

- i) Drug use Yes [] No []
- ii) Malnutrition Yes [] No []
- iii) Maternal age above 30 before given birth Yes [] No []
- iv) Maternal alcohol consumption Yes [] No []

11. Which of the following can sometimes trigger seizures in people with epilepsy? (You may select more than one option)

- a) Staring at TV/Computer screen for too long []
- b) Stress []
- c) Breathing too fast/ too deeply []
- d) Flashing or bright light []
- e) Lack of sleep []

PART 2. PERCEIVED MANIFESTATIONS OF EPILEPSY

12. What is/are the manifestation(s) of epilepsy? (You may select more than one option)

- a) Shouting (cry) []
- b) Loss of consciousness []



- c) Falling down []
- d) Jerking of the body []
- e) Rolling of eyes []
- f) Foaming of the mouth []
- g) Biting of tongue []
- h) Urination []
- i) Abnormal behaviour []
- j) Others (specify):

SECTION C

ATTITUDE TOWARDS EPILEPSY

PART 3. PERCEIVED SPREAD OF EPILEPSY

13. In what way can epilepsy be transmitted? (You may select more than one option)

- a) Marriage []
- b) Physical contact []
- c) Sharing food []
- d) Saliva []
- e) Flatus []
- f) Urine []
- g) Faeces []
- h) Others (specify):

14. Do you believe that breathe from an epileptic patient is infectious?

- a) Yes []
- b) No []



Give reason(s) for your answer:.....

.....

15. Is/Are there (an) animal(s) whose dropping is/are believed to spread epilepsy?

a) Yes []

b) No []

16. If Yes to Question 15 above, what animal(s) is/are it/these?

.....

17. Is it possible coming into contact with excretions (body fluids) from an epileptic patient can infect some one?

a) Yes []

b) No []

If yes, why?:

.....

.....

PART 4. NURSES BEHAVIOUR TOWARDS PWE

18. Would you like to have an amorous relationship with a person with epilepsy?

a) Yes []

b) No []

Give reasons for your answer:

.....

19. Do you suspect persons with epilepsy to be mental ill patients?

a) Yes []

b) No []



Assign reason(s) to your answer:

.....

.....

20. Do you share the view that persons living with epilepsy have the same intellectual capabilities as the general public?

a) Yes []

b) No []

Assign reason(s) to your answer:

.....

21. Would you support the idea that persons with epilepsy should be employed in the same jobs as other people?

a) Yes []

b) No []

SECTION D

PRACTICES ON EPILEPSY

PART 5. CARE GIVEN TO PWE DURING FIT ATTACKS

22. What do you do when seizure occurs? (You may select more than one option)

a) Keep/Run away []

b) Not touching the person []

c) Perform recommended first-aid measures []

23. What do you do after seizure has subsided?



.....
.....
.....
.....

24. Which of the following would you include in counseling persons with epilepsy? (You may select more than one option)

- a) Avoid heights []
- b) Avoid alcohol []
- c) Take drugs as prescribed []
- d) Regular exercises []
- e) Get plenty of sleep []
- f) Others (specify):

PART 6. PREFERRED TREATMENT OF EPILEPSY

25. Which choice of treatment would you prefer for persons with epilepsy? (You may select more than one option)

- a) Prayer camp healing []
- b) Traditional/Herbal medicine []
- c) Orthodox medicine []
- d) Fetish healing []
- e) Animal sacrifice []
- f) Others (specify):

26. Which drug(s) is/are used to manage epilepsy in your facility?

Thank you for your response.



LETTER OF INTRODUCTION

UNIVERSITY FOR DEVELOPMENT STUDIES

(School of Allied Health Sciences)

Tel: 03720-93295

P.O. Box 1883

Tamale, Ghana

Our Ref: UDS/CHD/0207/15



Your Ref:

16/06/2017

DEPARTMENT OF PUBLIC HEALTH

The District Director of Health Services
Ghana Health Service
Asutifi North, Kenyasi
Brong Ahafo Region

Dear Sir,

**REQUEST TO CARRY OUT RESEARCH IN SELECTED HEALTH CENTRES
IN ASUTIFI NORTH DISTRICT**

The School of Allied Health Sciences (SAHS), University for Development Studies would like to request permission for Mr. Richard Opoku Asare, a student in the Department of Public Health to collect data from selected health centres in the Asutifi North district. This would be in partial fulfilment of the award of Master of Philosophy degree in Community Health and Development.

The study title is **“KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING EPILEPSY AMONG NURSES IN ASUTIFI NORTH DISTRICT”**.

We want to assure your office that data collected would be used only for academic work.

Counting on your support

Yours faithfully,

Akwasi Boakye-Yiadom (For: Head of Department)

