PRIMARY SCHOOL TEACHERS' KNOWLEDGE AND PRACTICES PERTAINING TO CHILDHOOD EPILEPSY IN KILOMBERO DISTRICT, TANZANIA

Sehaba Zedrick Msafiri

Master of Science Mental Health Nursing Dissertation

Muhimbili University of Health and Allied Sciences

August, 2010

PRIMARY SCHOOL TEACHERS' KNOWLEDGE AND PRACTICES PERTAINING TO CHILDHOOD EPILEPSY IN KILOMBERO DISTRICT, TANZANIA

By

Sehaba Zedrick Msafiri

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Sciences (Mental Health Nursing) of the Muhimbili University of Health and Allied Sciences

Muhimbili University of Health and Allied Sciences

August, 2010

CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by the Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam, a dissertation titled: ***"Primary School Teachers' knowledge and practices pertaining to childhood epilepsy in Kilombero District, Tanzania"***, in partial fulfillment of the requirements for the degree of Master of Sciences in Mental Health Nursing.

.....

Dr. Anne Outwater PhD, RN

(Supervisor)

Date.....22 Nov 2010.....

.....

Dr. K. Y. Malima PhD, RN

(Co-Supervisor)

Date.....22/11/2010.....

DECLARATION AND COPYRIGHT

I, Sehaba Msafiri, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature M. Sehaba ..... Date 20th NOVEMBER, 2010

This dissertation is copyright material protected under the Berne Convention, the copyright Act 1999 and other international and national enactments, in that behalf on intellectual property. It may not be reproduced by any means, in full or in part, except for short extracts in fair dealing, for research or private study, critical scholarly review or discourse with an acknowledgement, without written permission of the Directorate of Postgraduate Studies, on behalf of both the author and the Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam.

ACKNOWLEDGEMENTS

I am expressing my sincere gratitude to many people who encouraged and supported me with their time throughout, and I am therefore deeply grateful to all those who have with such good grace given their energy to supply valuable opinions, facts or even moral support to me. Firstly, I would like to thank the Ministry of Health and Social Welfare for funding my studies.

Much of any worth this dissertation may have is due to the generosity of my supervisor Dr. Anne Outwater who gave me excellent advices and constructive criticism from the initial development of the proposal to the final completion of this work. I am also obligated to Dr. K. I. Yahya and Prof. M. B. Sebit for their guidance and patience as they devoted their time towards the supervision of my research study.

My heartfelt appreciation is directed to Head Department of Clinical services, Mrs. Mselle and all other staff members of School of Nursing whose contributions and constructive criticisms have made this work much better. Moreover special thanks go to Dr. E. F. Chiduo, senior Lecturer and Consultant University of Dar es Salaam, who continuously encouraged me to go through my work. Furthermore, my appreciation go to Mr. Abdallah Ngodu, from the Ministry of Education and vocational training Tanzania, for his primarily advices on policy and significance of the study.

I am thankful to all staff members of Epidemiology and Statistics, for their primarily assistance of introducing knowledge of research and guidance special thanks to Dr. E. Mbagga who made my work success. My sincere thanks also go to Mr. Makwaya of the Department of Biostatistics for the statistical assistance in this dissertation. Special appreciations go to Mr. Patric from department of Health informatics (MUHAS) who assisted me with supervision on analysis of data.

I would like to thank Mrs. Rehema Madenge (District Executive Director) and District Education Officers at Kilombero District who provided me with a good support and allowed teachers to participate in this study. I also have to appreciate and thank all teachers at Kilombero District, Morogoro for their good cooperation during data collection.

I am very much obligated to my parents, brothers and sisters for their moral support. I wish to extend my heartfelt gratitude my late father Bigvai Sehaba and my mother Hija Kamtande, who created the career and all round development of my personality for welfare of my people. My lovely wife Magreth, and our daughter Penina and son Frederick, for all the joy, pray and hope they instill in me during the whole period of my absence at home. To all people I find difficult to mention by names every individual who contributed to the success of this work, but to all of them I say thanks and be blessed.

DEDICATION

I dedicate this work to the memory of my late father Bigvai Sehaba, my lovely wife Magreth, and children Penina and Fredrick.

ABSTRACT

Background: Like many other countries, Tanzania has been facing challenges on managing childhood epilepsy. Fifty million people globally have active epilepsy and prevalence rates of epilepsy worldwide vary from 2.8 to 19.5 per 1,000 people of the general population. Various studies have shown that epilepsy seems to be more frequent in those less than 10 years old including school children. Worldwide, 60–90% of people with epilepsy receives no treatment and is inadequately treated.

Objective: The broad objective of this study was to assess the awareness of childhood epilepsy among Primary School Teachers at Kilombero District, Tanzania.

Study design, population and setting: A descriptive cross sectional study was conducted involving 151 primary school teachers at Kilombero District- Morogoro, Tanzania.

Methods: A cross-sectional study was conducted. The results give an overview of teachers understanding and practice about epilepsy during their class hours and in the community. Ethical clearance to conduct this study was granted by the Directorate of Research and Publications committee of Muhimbili University of Health and Allied Sciences. Permission to conduct the study was obtained from the Regional Administration Secretary for Morogoro Region. Data was obtained using a checklist for assessing the Primary School Teachers' knowledge and practices pertaining to childhood epilepsy at Kilombero District, Tanzania. Demographic data of teachers, Age, Sex, Education level, and teaching experience were determined.

Results: About 151 individuals were interviewed of which 57 (37.7%) were male. Their age of the sample ranged from 18 to 59 years. Majority of the respondents (55 6%) were between 18 to 29 years. Seven (4.6%) individuals had primary education, 132 (87.4%) secondary education and the rest 12 (8%) had tertiary education. Up to (60.9%) had at least some aspect of knowledge on childhood epilepsy. The present study also found that, about (17%) of the respondents had poor knowledge on epilepsy. Some teachers declared that epilepsy was contagious and (21.8%) is a

curable disease. The majority of the respondents (79.0%) prefer for hospital treatment. This was followed by (18%) who choose for traditional medicine, (3%) did not know a specific treatment for epilepsy and the rest (0%) did not mention about sending epileptic children to the spiritual healers. Almost all teachers heard about epilepsy yet could not demonstrate how they would care for epilepsy care of the disease among the pupils. The present study shows that there was significant difference between those individuals with less teaching experience and those with longer teaching experience with regard to having cared for an epileptic child (X^2 =6.772, df = 2, P < 0.034).

Conclusion: There is a need for teachers' educational programmes aimed at encouraging school teachers to have knowledge about handling a child with epilepsy. Teachers' college curriculum should also include special programmes for childhood epilepsy. This study results will help specialist Mental Health Nurses at all level to conduct training for school Teachers in Tanzania. Nurses play an important role as they have an understanding of seizures and medications such as antiepileptic drugs AEDs. Together with school Nurses, Teachers should be able to handle epileptic seizures, understand how AEDs are provided to epileptic child, deciding when to refer and make sure a child is on his/her daily prescribed medication. Due to the fact that Nurses are competent on appropriately handling epileptic seizures, they are likely able to provide the necessary information on handling seizures in educational setting, teachers in guidance and workshops.

TABLE OF CONTENTS

Title page ii
Certification iii
Declaration and Copyright iv
Acknowledgement v
Dedication vii
Abstract viii
Table of contents ix
List of tables x
List of figures xiii
Abbreviation xiv
Chapter 1. INTRODUCTION 1
Background 1
Problem statement 3
Significant of the study 4
Objective 4
Conceptual frame work 5
Definition of terms 9
Chapter 2. LITERATURE REVIEW 10
Chapter 3. METHODOLOGY 13
Study design and setting 13
Study population 14
Sample size determination 15
Sampling and Instrumentation 15
Data collection 16
Data processing and analysis 17
Ethical consideration 18
Chapter 4. RESULTS 19

Chapter 5. DISCUSSION 30
Discussion of findings 30
Chapter 6. CONCLUSION AND RECOMENDATION 35
Conclusion and recomendations 35
Nursing implication 36
Reference 37
Appendicess 41
Appendix 1 Questionnaire English version 41
Appendix 2 questionnaire Swahili version 44
Appendix 3 Informed consent English version 48
Appendix 4 Informed consent Swahili version 50
Appendix 5 Legal documents and Letters 52

List of tables x

Table 1. List of School and Teachers 19
Table 2. Participants demographic 20
Table 3. Heard of epilepsy 21
Table 4. Epilepsy is contageous 22
Table 5. Criteria used on assessing Teachers knowledge of epilepsy 22
Table 6. Knowledge items and percentage of correct response by participants 23
Table 7. Level of knowledge about epilepsy, ... 23
Table 8. Epilepsy is curable 24
Table 9. Kind of treatment of epilepsy 25
Table 10. Presence of School nurse 26
Table 11. Availability of Antiepileptic Drugs 26
Table 12.Teachers action when a child has epileptic seizures 27
Table 13. Discriminating epileptic child. 27
Table 14. Allowing an epileptic child to play with other kids 28
Table 15. Association between teaching experiences and their knowledge of epilepsy 28
Table 16. Association between level of teachers knowledge of epilepsy and education 29
Table 17. Comparison between Hospital and traditional treatment of epilepsy 31

List of Figures xi

Figure 1. Shows a conceptual framework model for caring a child with epilepsy 6

Figure 2. Pie chart- Kind of treatment given to a child having epilepsy 25

LIST OF ABBREVIATIATIONS

AEDs	Antiepileptic Drugs
CDC	Center for Disease Control, Atlanta, Georgia, USA
DAS	District Administrative Secretary
DDH	Designated District Hospital
DED	District Executive Director
DEO	District Education Officer
DMO	District Medical Officer
HIV	Human Immunodeficiency Virus
KAP	Knowledge Attitude and Practice
MoEVT	Ministry of Education and Vocation Training
MoHSW	Ministry of Health and Social Welfare
MUHAS	Muhimbili University of Health and Allied Sciences
RAS	Regional Administrative Secretary
SFDDH	St. Francis Designated District Hospital
SPSS	Statistical Package for the Social Sciences
TB	Tuberculosis
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1. Background

Epilepsy is a chronic neurological disorder which is characterized by recurrent derangement of the nervous system due to sudden excessive disorderly discharge of the cerebral neurons (Kabir et al., 2005). Most causes of the epilepsy are unknown, but there are some risk factors such as brain tumor, head injury, central nervous system (CNS) infections such as neurocysticercosis, birth brain trauma, and genetic factors that are associated with epilepsy occurrence.

It is estimated that fifty million people, globally have active epilepsy (WHO, 2005). Prevalence rates of epilepsy worldwide vary from 2.8 to 19.5 per 1,000 people of the general population (Kabir et al., 2005). The prevalence seems to be higher in rural areas than the urban areas (Mustafa et al., 2002). Generally, epilepsy is seen to be more frequent in those less than 10 years old (Jallon et al., 2001). Worldwide, 60–90% of people with epilepsy receive no treatment or are inadequately treated (Scott, Lhatoo & Sander, 2001). Similar study findings from United States of America revealed that, epilepsy is the third most common neurological disorder after stroke and it has been reported to cost the nation about USD 12.5 billion annually (Maylahn et al., 2007). These expenses could be relatively higher in low income countries such as Tanzania where the prevalence of uncontrolled epilepsy is much higher.

In socio-economically poor countries, patients with epilepsy often have poor education, and are often unemployed despite optimal seizure control (Silanpaa et al., 2009). The attitudes toward people with epilepsy are influenced by the degree of knowledge of the condition (McLin WM, de Boer HM, 1995). Data obtained from Brazil shows that teachers usually do not receive any formal instruction about epilepsy during their training (Fabio et al., 2001). Knowledge about epilepsy among school teachers is a major concern to improve health of the people (Sanya, 2005).

In Africa Region epilepsy is a health burden among the community. A study done in Ghana among government workers showed that, 45.3% of 380 respondents did not know the cause of epilepsy and 37.6% did not know how it could be treated (Nyame & Biriwum, 1997). Lack of proper information regarding the nature of epilepsy itself and stigma are the major reasons that people did not know the cause of epilepsy (Ndiaye et al., 2004).

Report on knowledge and attitude among rural Tanzanian is mentioned from Mahenge District and Mara Region in Tanzania, indicated that although there are still false beliefs, a good proportion of individuals in the community hold some correct knowledge and beliefs about epilepsy Rwiza et al., 1993). The National Mental Health Report of 2008, by the Ministry of Health and Social Welfare revealed that epilepsy was a leading disorder among 13 mental health disorders; it estimated that 700,000 person suffer from epilepsy in Tanzania. Epilepsy has been treated within a Mental Health services in the health care system for many years now. Recently, the Ministry of Health and Social Welfare used a conservative community prevalence of 0.5% to 4.0% for epilepsy (MoHSW, 2008). Therefore there is a very little research done on teacher's knowledge and practices.

1.2 Statement of the problem

Many health programs concerning care of school children such as dental health and schistosomiasis control programs in Tanzania are conducted in collaboration between the Ministry for Education and Vocational training and the Ministry of Health and Social Welfare (MoEVT, 2009). The Government of Tanzania through the Ministry of Health and Social welfare provides antiepileptic drugs free of charge such as phenytoin, Phenobarbital and Carbamazepin to epileptic patients.

Although there are few studies conducted in Tanzania about epilepsy (Rwiza et al., 1992., Matuja et al 1993., and Kilonzo et al 1994.), there are no similar studies which have been done in Kilombero. Most recently statistical data shows that Morogoro Region is the second leading highest rate in the nation of mental illness including epilepsy with prevalence rate of 87 per 1000 people after Mtwara which is leading with prevalence of 163 per 1000 people (MoHSW, 2008; MoEVT, 2009). This gap can be filled by conducting a scientific study to assess awareness of epilepsy among School teachers in the country. This study therefore will help to assess the knowledge and practices pertaining to childhood epilepsy among Primary School Teachers at Kilombero District, Tanzania.

1.3 Significance of the study

This study is the first of its kind in Tanzania in which knowledge, and practices of teachers about epilepsy are examined. This study focuses on epilepsy which can be cared for largely in the community. In order to improve the community's awareness of epilepsy, Primary School Teachers' knowledge and understanding of epilepsy are very essential. This will provide assistance to the few community mental health nurses who care for the epileptic children. It is important for teachers to be involved in school health programmes through integrating teachers' training curriculum. Findings from this study will also provide additional baseline information to the Ministry of Health and Social Welfare and Ministry of Education and Vocational Training to establish training program for the Primary School Teachers before initiate school health education's curriculum for epilepsy.

1.4 OBJECTIVES

1.4.1 Broad Objective

To assess the awareness of childhood epilepsy among primary school teachers at Kilombero District, Tanzania.

1.4.2 Specific Objectives

1. To assess level of knowledge on childhood epilepsy as a neurological disorder among Primary School Teachers in Kilombero District.
2. To identify teachers' practices on management of childhood epilepsy during their professional life in Kilombero District.
3. To assess the association between level of knowledge of childhood epilepsy and level of education of Primary School Teachers in Kilombero District.
4. To assess the association between duration of teaching practice and ability to provide care for epilepsy in Kilombero District.

1.5 Conceptual frame work for caring a child with epilepsy

The conceptual frame work applied in this study was adapted from the childhood epilepsy theoretical model developed by (Wallander et al., 2003), which focuses on psychopathology, community and parental factors as illustrated in Figure 1 below. This theoretical model is adapted for teachers' knowledge and practices about childhood epilepsy. Eventually poor school performance can be easily evaluated when there's pupils obtained low grade scored at their school. For instance teachers' lack of knowledge, poor practices such as running away from a child having seizures and epilepsy-related factors such as temper tantrum, abusive language, aggressive behaviors, hostile or unwanted movements contribute to poor school performance for a particular child suffering from epilepsy. Other factors have dependent effects on a child's school performance such as teacher's psychology, parent/community characteristics for example lack of a health system with drug availability and epilepsy related factors such as hostile temper tantrum.

According to the model, teachers, community and epilepsy characteristics affect a child's school performance. From a child developmental perspective, the relationship between a child with epilepsy, parents, teachers and the community is considered to be transitional; arrows that depict the relationship between independent and dependent outcomes reflect unidirectional relationships. Many children with epilepsy are at an increased risk for a number of education-related problems such as stigma, discrimination and psychological, that negatively impact on their current quality of life and place them at increased risk for psychosocial problems later in adolescence and adulthood (Austin, 2000).

According to Owen and Shaw, a positive teacher–child relationship has been found to contribute to lower levels of child psychopathology for both healthy children and for those with epilepsy (Owen & Shaw, 2003). Owen insisted that poor teacher–child relationship has a tendency of increasing the levels of child psychiatric disturbances and psychosocial behaviors. Therefore there is association between epilepsy- related factors and child poor school performance, any changes can lead to poor educational developmental especially at primary level of education. In Tanzania this model has implications for improving the school life of the child and the teacher.

CONCEPTUAL FRAME WORK FOR CARING A CHILD WITH EPILEPSY

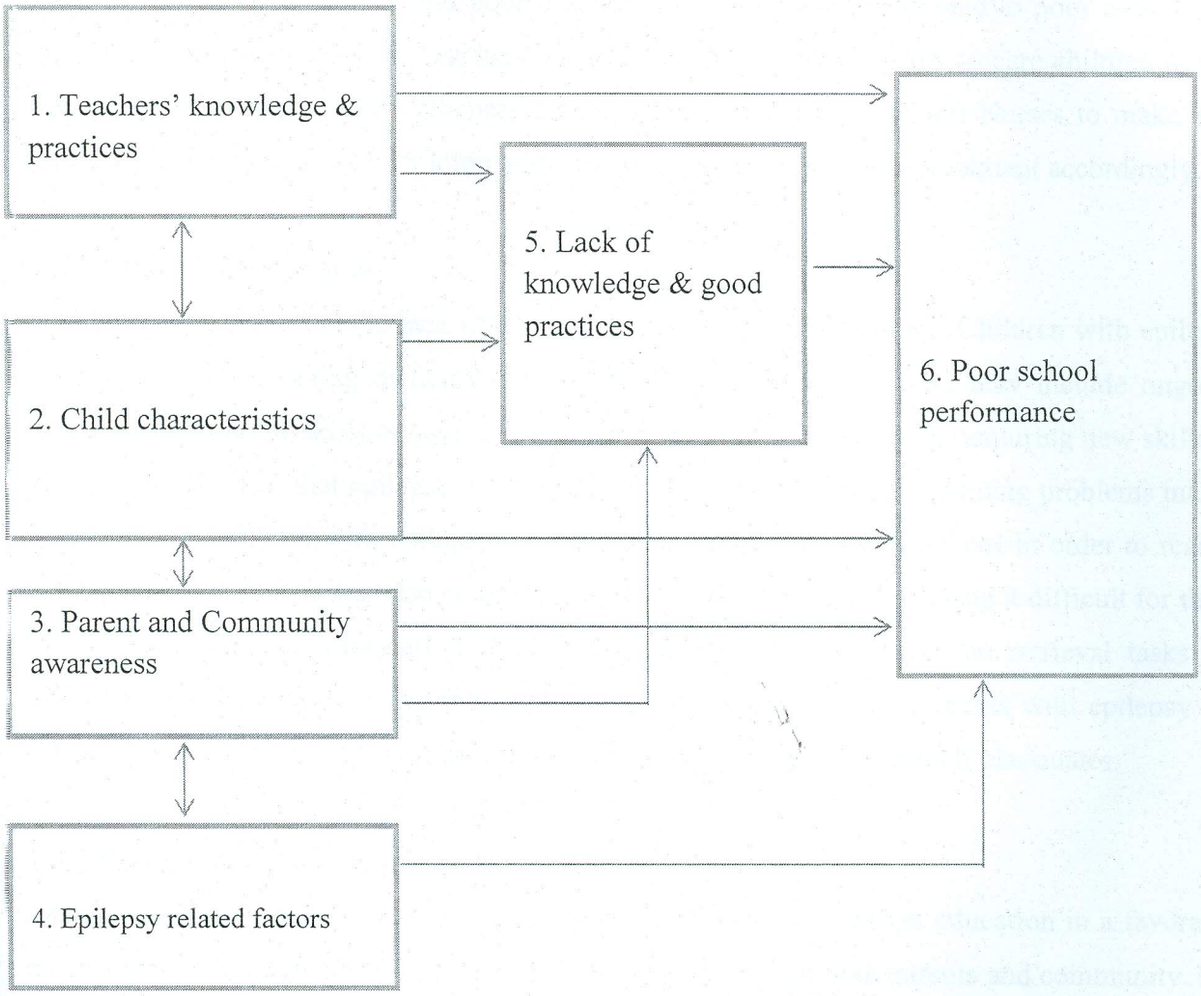


Figure 1: Conceptual framework model for caring for a child with epilepsy.

Source: Wallander et al., 2003.

1.5.1 Teachers' knowledge & practices

Lack of teachers' knowledge and poor practices toward epilepsy may lead to poor outcome of child performance in schools. Teachers need to have knowledge on how to care children during the epileptic seizures attack. Teachers should work together with school Nurses to make sure they identify and register all children with epilepsy and get appropriate treatment accordingly.

1.5.2 Child characteristics

Child characteristics include lack of learning basic concepts & memory. Children with epilepsy often experience learning difficulties as result of their seizures. These may include ongoing problems with motor skills or cognitive functions, as well as difficulty as acquiring new skills or knowledge. The fact that epilepsy is associated with such wide-ranging learning problems makes it critical that children with epilepsy have the appropriate supports at school in order to realize their potential. Seizures can also compromise their working memory, making it difficult for them to store and retrieve information. Many learning activities are based on retrieval tasks for example, defining words, remembering historical dates and events. Students with epilepsy are often unable to apply learned information and thus fail to keep up with their classmates.

1.5.3 Community/Parent awareness

Parents and Community have a big role making sure their children get education in a favorable environment. Children with epilepsy need a good support from both parents and community. For instance parents should make sure that they provide necessary child particular's information concerning epileptic child to class teacher. This will help staff to have a close observation during class and school activities like sports and or farming. Community also has the role to make sure good health services at all levels. For example, the hospital in charges, DMO and Mental Health Nurse Specialists should make sure that antiepileptic drugs are available all the time in the health facilities. In other way school Nurses have the role to play on helping children with epilepsy and who need some assistance on medication, attending psychiatric clinics and health education.

1.5.4 Epilepsy related factors

Epilepsy related factors are clinical features where by a child having epilepsy presents. These factors include temper tantrums, hostility, aggressiveness and or unwanted movements. These factors have dependent effects on a child's school performance. Epilepsy tends to mirror the degree of neurological damage, being more prevalent in severe learning disorders.

1.5.5 School performance

Poor teacher–child relationship increases the levels of child psychiatric disturbances and psychosocial behaviors. Positive teacher–child relationship has been found to contribute to lower levels of child psychopathology for both healthy children and for those with epilepsy (Owen & Shaw, 2003). As the epileptic child needs to learn things slowly hence the environment of learning should be suitably conducive. Therefore there's a need for teachers' educational curriculum to be related with child health condition of a child such as epilepsy.

1.5.6 Definition of terms

Childhood - Somebody's earliest years, the state of being a child, or the period of somebody's life when she/he is a child. In Tanzania somebody aged below 17 years old is regarded to be a child.

Knowledge - In this study, the term is used to mean, Teachers' understanding of epilepsy and treatment.

Practice - In this study, the term is used to mean recognizing patient needing epilepsy treatment, including medication and or health education.

Primary School Teacher - A person who is having a certificate, and or diploma of teaching pupils and who is licensed to practice as a teacher in accordance to the Teachers Service Department and Tanzania Teachers' Union.

Division – This is an administrative area larger than Ward, it may have three or more wards according to the geographical distribution and administrative borders.

CHAPTER TWO: LITERATURE REVIEW

Epilepsy is one of the most common serious chronic neurological disorders with a prevalence rate varying from 2.8 to 19.5 per 1000 general population and it prevails more specially among school children (Fabio et al., 2001). Despite biomedical advances in the diagnosis and therapy of epilepsy, negative public attitudes and bias toward children with epilepsy are still widely prevalent. The social attitudes toward, stigma of, and discrimination against children with epilepsy are often more devastating and harmful than the disease itself. The unpredictability of when and where the next seizure might occur makes children with epilepsy live in constant fear of the unknown. They often report feeling different from their peers and are fearful of having seizures in front of their friends, resulting in adjustment problems including poor self-esteem (Kobau & Price 2002).

Several studies have shown that there is a lack of basic knowledge of epilepsy, misunderstanding, and negative attitudes among the general public, epileptic patients and their families, and even among health care professionals (Doughty et al., 2003; Al-Adawi et al., 2001). Its incidence is higher in the first decade of life, a period during which children begin and complete a critical part of their social and educational development (Bishop et al., 2006). For the second decade of their life, they spend a large amount of their time at school it is a critical period of social, psychological, and physical development. Furthermore, because success in school is so important to success in adult roles, school experience is a key factor in student's current and future quality of life.

A study finding from Nigeria, revealed higher prevalence of epilepsy in low income countries compared to higher income countries which ranging from 2.8 to 19.5 per 1,000 people (Kabir et al., 2005). This range differs from one country to another; for instance in Nigeria the estimated prevalence is higher compared to worldwide prevalence of 8 to 13 per 1000 people. The fact that prevalence rates seem to be higher in low income countries is related to a younger population structure, socio-economic factors and different etiological factors such as tumor in the brain, trauma and brain infection (Mustafa et al., 2002). The prevalence and incidence rates of epilepsy in rural and sub-urban areas are usually higher than in cities. This is due to the fact that risk

factors such as socio-economic factors are more concentrated in the rural and the suburban areas where migrants from village to city reside in very poor conditions (Matuja, 1994).

A study done in urban Nigeria to assess teachers knowledge found that about 43% of the respondents thought that patients with epilepsy cannot work like other people, 25% of the respondents would not allow their children to play with a child with epilepsy, 56% objected to their children marrying a person with epilepsy, 57% of respondents thought that epilepsy was a mental illness, and 20% thought that epilepsy was contagious. An earlier study among the nurses, and students in nursing and social work in Jakarta showed that 58% of the respondents objected to their relatives marrying people with epilepsy, and 22% thought that people with epilepsy could not work like others (Bishop, & Boag, 2005).

In West Africa also "epilepsy is enrobed in superstition, discrimination, and stigma" (Ndour et al., 2004). Academic achievement of children with epilepsy is hampered by social barriers in addition to the burden of the disease as many people with epilepsy develop depression during the course of their illness and are treated as psychiatric patients. The WHO estimates that of the approximately 10 million people in Africa who live with epilepsy, 80% or eight million are not treated with available modern drugs. Most of the causes of symptomatic epilepsy in our region can be greatly reduced by prevention and treatment (WHO, 2004).

The situation of epilepsy in the African region reflects a worldwide prevalence, although the incidence increases in Latin America, the Eastern Mediterranean, Africa and South - East Asia, with more predisposing cerebral disorders such as communicable diseases, perinatal insults and other brain stressing factors (WHO, 2004). About 10% of the whole world population living a normal life span can expect to have at least one epileptic seizure. At least 50 million will have recurrent seizures. This could be underestimated, as partial seizures are often not recognized as such in the higher socio economical countries. Out of the 50 million, 40 million receive no treatment when, for only a small amount of money, 70% of these could lead seizure-free lives (WHO, 2004).

A study done in Mahenge District – Morogoro to assess the knowledge, attitude and practice (KAP) towards epilepsy in secondary school students in Tanzania has shown that, people with epilepsy are shunned and discriminated against in education, unemployment and marriage in Africa; epilepsy is seen to be a shameful disease in the eyes of the public (Matuja et al., 1994). People with epilepsy are an underserved patient group, and often do not receive modern antiepileptic drug treatment. They may have a higher mortality rate than the normal population Factors such as poor socioeconomic problems might contribute to poor management of epilepsy at very early stages, resulting in chronic type seizures, and status epilepticus in the adolescent and adults (Odermatt et al., 2008).

Because of trust in teachers from societies on the issues of education and ability of providing knowledge to the community, there is an urgent need for a health education campaign involving them. Such a campaign will definitely improve the acceptance of children with epilepsy by teachers and, therefore, facilitate the successful integration of these children with epilepsy into mainstream schools (Ojinnaka, 2002).

Therefore, teachers' knowledge about and attitudes toward epilepsy can have a direct impact on children with epilepsy in terms of school performance, social skills development, and post school success in the areas of employment, social skills, and social network development (Hsieh & Chiou, 2001). Hence it is important for teachers to have this essential package of knowledge in order to help children with epilepsy during their school life.

CHAPTER THREE: METHODOLOGY

This section presents the methodology that was employed during this research. Specifically, it describes the design of the study, location of the study, study population, sample and sampling procedures. It also presents data collection methods, administration of the research instrument and ethical considerations.

3.1 Study design

This was a descriptive cross sectional study, using quantitative research methods. The data were collected over a period of two months, from May to July 2010, in Kilombero District, Morogoro Region.

3.2 Study location

The study was conducted in Kilombero District, which is one of the 6 Districts in Morogoro Region, eastern part of Tanzania. The District headquarters is located 200 km west-south from Morogoro town, and it is situated along the Mikumi Mahenge road. It is bordered by Iringa Region in the Northwest, Kilosa District in the Northeast and Morogoro rural in the East, while at its South and South-east extremes it shares borders with Ruvuma Region and Ulanga District respectively. Communication is through roads, railway, river, and telephones. Administratively it is subdivided into five divisions namely Ifakara, Kidatu, Mang'ula, Mkamba and Mlimba, 19 wards and about 84 villages.

The District covers an area of 400,000 hectares of the land which are suitable for agricultural activities such as farming and animal husbandry, and has a population of 321,611 people (National Bureau statistics, 2003). The population composition has three main ethnic groups namely, Wandamba, Wapogoro, and Wabena. The other ethnic group includes Masai, Wasukuma, and Wambunga. Residents are engaged in petty business, small scale farming, animal keeping and a few are employees.

There are two Hospitals; one has a religious faith base and the other is owned by Kilombero Sugar Company. However, there are 6 Health Centres and 18 Dispensaries owned by public and

private sector. All villages in the District have government primary schools. The median age at enrollment in school is 8.75 years.

The District has 144 Primary Schools with a total number of 1561 enrolled Teachers of which 936 are females and 625 are males. There are three boarding primary schools where by two are private and one is international school. There is also one special primary school for disabled children located in Ifakara town which is faith based; it receives children with mental disabilities, mental retardation, and epilepsy, from different part of the country (Kilombero District Education Officer, 2009). The reason for choosing this area of study is because, Morogoro region has high prevalence of mental illness including epilepsy, and Kilombero District being one of the most affected areas (National Mental Health, 2008 & Basic Education Statistics in Tanzania, 2009).

3.3 Study population

The target population of the present study was Primary School Teachers, adults of both sexes, aged 18 years and above living and working in Kilombero District Council. All Teachers involved in this study were from selected Schools within the study area.

3.3.1 Inclusion criteria for selection of study sample

Only those Primary School Teachers aged 18 years and above who were randomly selected from the list of Teachers in three wards, and who were present at schools on the days the study was conducted were eligible to participate.

3.3.2 Exclusion criteria

Teachers who refused to take part and those who were on leave during the days this study was conducted were not qualified to participate in the present study.

3.4 Sample size determination

The sample size **n** for this study was calculated by using an appropriate statistical formula for minimum sample size. The sample size was obtained by using the following formula.

$\mathbf{n = Z^2 P (1-P)/E^2}$ (Kirkwood, 2003).

Z = Confidence interval selected for this study is 95% confidence interval which is 1.96

E = Marginal error level 5%

P = Prevalence is 12% of respondents believed epilepsy is a curable disease as reported in the previous study done in East Africa (Rwiza et al, 1993).

Then by substituting the figures above

n= 1.96x 1.96 x 0.12 (1- 0.12)/0.05 x 0.05

n= 3.8416 x 0.12(0.88)/ 0.0025 = 162.26 = 162

n= 162 plus 4% of those who may be refused to take part = 4/100x162 = (6+162) = 168

n= 168

3.5 Sampling technique

A multistage sampling technique was used to select participants. Kilombero District is divided into 19 wards. Three out of 19 wards were selected by simple random sampling. The sampling was done in three stages as described below: In the first stage, one Division was randomly selected from the list of five Divisions. Mang'ula division has five wards (Ichonde, Kiberege, Mwaya, Mkula, Kisawasawa and Zignal). Three out of five wards were also randomly selected to get study population.

In the second stage, a list for all government and private schools from the three wards was obtained. Each ward had a minimum of 6 villages and one primary school in each village except for two villages (Mwaya and Mang'ula villages) which had four schools. Each primary school has an average of 20 teachers with a minimum number of fifteen teachers. A total number of 9 schools out of 20 schools were randomly selected, three schools from each ward. In each ward if there were unclear selection criteria for schools, then it effected by tossing a coin in order to get one more school to be added.

Considering the calculated total sample size of 168, the minimum number of teachers needed from each selected school was 18 teachers. A total number of 168 teachers were contacted, among them 17 individuals were under exclusion criteria. Few teachers were affected by pupil's term examinations and most of schools were prepared for midterm break. Those respondents who did not managed to return the questionnaires in time interfered with the calculated sample size hence decreased by 9% of predicted sample size.

3.6 Data collection method

The research instruments were constructed in English and translated into Kiswahili, the most widely spoken language in Tanzania including the study area. The instrument included both dependent and independent variables. Independent variables was socio-demographic characteristics, and childhood epilepsy and dependent variables were teacher' knowledge and practices. The questionnaires asked for information concerning the socio- demographic characteristics including age, sex, level of education, and period of time respondent stayed at such school. Information component knowledge and attitudes were included and asked to participants to obtain the level of knowledge and practices on caring a child with epilepsy. The selected teachers asked to complete the questionnaires were reached and contacted physically and or by phone. Data were collected between July and September 2010, using a structured questionnaire.

3.7 Pre- testing of the questionnaire

Pre – testing of the questionnaire was carried out in May 2010 at Maendeleo Primary School, Kibaoni ward which has demographic characteristics such as age, level of education and teaching experience similar to the study area. The purpose was ascertained whether modification of the questionnaires was necessary. Almost twenty teachers participated in the pilot test study. Then structured questionnaires were given to participants as well as instructions on how to fill in questionnaires. Each participant was given a chance to ask questions concerning the present study. Those teachers who had undergone the pilot study were not included. Some few questions were modified in terms of language and level of participants understanding; some options were removed or presented in simple language.

3.8 Validity

The content validity of the questionnaires was examined by researchers and colleagues working at MUHAS. Discussions were held with the researcher to look into issues of clarity and specificity. Then the instrument was checked if had covered the objectives, literature and whether the question was understood. It was also checked for the time taken to attempt the questions in the instrument.

3.9 Reliability

This is the dependability with which an instrument measures an attribute or variable to establish if the participants in the study will be able to understand the instruction, the items and respond correctly to the instrument. The pre-testing helped on this perhaps.

3.10 Data processing and analysis

Each questionnaire was assigned a unique number before data entry. Manual editing of the questionnaires was performed every evening after the field work for the purposes of minimizing unintended omissions and identification of any inconsistencies. Open-ended responses were coded first. Then data were checked for completeness, cleaned for inconsistencies, incorrect values, coded and entered into computer for analysis.

Analysis was accomplished using SPSS program version 15.0. Data was summarized using frequencies, distribution tables, and cross tabulations. Cross tabulation to determine relationship between certain variables was performed. The Chi- square test was used to test the significance of associations between the categorical groups. P-value was used to interpret the significance of the statistical test at alpha level of 5%.

In the second part of the instrument in which knowledge was assessed no points were given for wrong answers while the correct answer to the knowledge questions was given a score of one point. Based on such grading, a total of 8 points were allocated to the section of teachers' knowledge about epilepsy, those who scored 5.5-8.0 points were considered to have good

knowledge, 3.5-5.4 points had fair knowledge, while a score of 1.0-3.4 points was considered as poor knowledge (Table 6).

3.11 Ethical considerations

Ethical clearance to conduct this study was granted by the Directorate of Research and Publications committee of Muhimbili University of Health and Allied Sciences (MUHAS). Permission to conduct the study was obtained from the Regional Administration Secretary (RAS) for Morogoro Region and District Administrative Secretary DAS. Permission to conduct this study was obtained from DAS Kilombero were given to the DED who wrote a letter to DEO-Kilombero. DED informed all the ward education co-ordinators and Head Teachers of the selected Primary Schools about the present study. Teachers' informed consent was sought and obtained in writing from prospective responders before they filled in questionnaires. Individuals were informed about the objectives of the study, ensured their participation was voluntary and were free to withdraw at any time in the course of study as they felt to do so. In fact it was transparently described that, the information provided was only for research purposes and would strictly be dealt with anonymously and confidentially.

Table 2: Socio-demographic characteristics of the study sample (n=151)

Variables	Frequency (n)	Percentage (%)
Teachers' age		
18-23 yrs	22	15
24-29 yrs	31	21
30-35 yrs	29	19
36-41 yrs	15	10
42-47 yrs	9	6
48-53 yrs	8	5
54-59 yrs	37	24
Total	**151**	**100**
Sex		
Male	57	37.7
Female	94	62.3
Total	**151**	**100**
Educational level		
Primary education	7	4.6
Secondary education	132	87.4
Tertiary education	12	8.0
Total	**151**	**100**
Teaching experience		
<1 year	31	20.5
1-5 years	33	21.9
>5 years	87	57.6
Total	**151**	**100**

In all, a total number of 151 individuals from the selected schools were interviewed. Among those respondents, 57 (37.7%) of them were male and 94 (62.3%) were female (Table. 2) above. Their ages ranged from 18 to 59 years. The majority of the participants (55%) were aged between 18 to 35 years. With respect to level of education 7 (4.6 %) of respondents had Primary

education, 132 (87.4%) secondary education and few 12 (8%) had tertiary education. In Tanzania primary school teachers are fully qualified by the age of 18 years old after underwent two years of their professional training in teachers colleges. They usually started primary education between 5-6 years old and complete secondary education at the age of 16 years.

4.3 Knowledge about childhood epilepsy among school teachers

4.4 Level of knowledge about epilepsy

The tables below show the responses pertaining to knowledge about epilepsy among Primary School Teachers.

Table 3: Teachers in Kilombero District ever heard about epilepsy or seizure (n=151)

Response	Frequency (n)	Percent %
Yes	145	96
No	6	4
Total	**151**	**100**

Almost all respondents 145 (96%) had heard about epilepsy and 6 (4%) had not heard about epilepsy (Table. 3).

Table 4: Kilombero, Teachers knowledge of epilepsy contagiousness (n=151)

Response	Frequency	Percent
True	85	56.3
Not true	23	15.2
I don't know	43	28.5
Total	**151**	**100**

Although epilepsy is not contagious the majority (56.3%) believed that either epilepsy was contagious or did not know (28.5%). Only 15.2% of respondents knew that epilepsy is not a contagious disease (Table. 4).

Table 5: Criteria used on assessing Kilombero Teachers knowledge of epilepsy

Knowledge score	Knowledge categories	Criteria used for given knowledge score
1	Good	Teachers could answer seven questions on knowledge about epilepsy
2	Moderate	Teachers could answer five questions on knowledge about epilepsy
3	Fair	Teachers could answer three or less questions on knowledge about epilepsy

Table 5 above shows how teachers was categorized as fair, moderate or high according to respective responses on knowledge questions. These scores were combined to form three level of teachers' knowledge on epilepsy.

Table 6: Knowledge items and percentage of correct responses by participants (n=151)

Knowledge item	Mean	Std. Deviation
Have you ever heard something about epilepsy or seizure?	1.04	0.2
Have you ever seen an epileptic seizure?	1.07	0.3
Epilepsy is a contagious disease.	2.16	1.4
What kind of treatment is given to a child with epilepsy?	4.08	0.7
Are the drugs used to treat epilepsy available in your community?	2.15	0.7
Can epilepsy be cured?	2.16	0.5
Is there any other form of mental illness which has similar symptoms to that of epilepsy in your school?	0.39	0.5
What are the symptoms of epilepsy which you have seen?	2.2	1.8

Note. Potential range of mean scores = 0.39 to 4.08

Table 7: Level of Teachers' knowledge about epilepsy (n=151)

Level of knowledge	Knowledge score	Number (n)	Percentage (%)
Poor	3	25	16.6
Satisfactory	2	92	60.9
Good	1	34	22.5
Total		**151**	**100**

No points were given for wrong answers while the correct answer to the knowledge questions was given a score of one point. Based on such grading, a total of 8 points were allocated to the section of teachers' knowledge about epilepsy, those who scored 5.5-8.0 points were considered to have good knowledge, 3.5-5.4 points had fair knowledge, while a score of 1.0-3.4 points was considered as poor knowledge.

Only (22.5%) had knowledge at least of the initial procedures during a seizure, presenting reasonable answers. (17%) of the respondents had poor knowledge on epilepsy. Teachers in general (60.9%) had at least some knowledge on childhood epilepsy (Table. 7) above.

4.5 Epilepsy is curable when treated early

Approximately 20-30% of patients do not achieve seizure control with drug treatment, although some few cases can be treated by surgical intervention (Johnstone, 2004). Treatment with antiepileptic drugs and psychological help is highly needed for good outcomes of managing recurrent seizures.

Table 8: Epilepsy is curable when treated early (n=151)

Response	Frequency (n)	Percent%
Yes	12	8.0
No	102	67.5
I dont know	37	24.5
Total	**151**	**100**

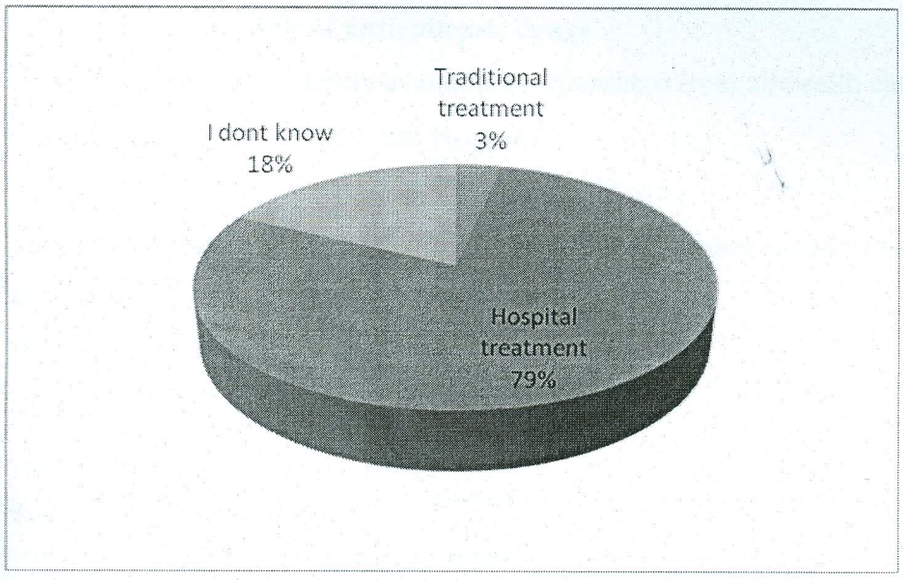
Only 12 (8.0%) of the 151 respondents, (Table. 8) believed epilepsy is a curable disease, others 102 (67.5%) believed that epilepsy is not curable and the rest don't know (24.5%) if epilepsy can be cured.

4.6 Treatment given to a child with epilepsy

Table 9: Responses to kind of treatment given to a child

Response	Frequency	Percentage %
Traditional treatment	5	3.3
Hospital treatment	119	78.8
Spiritual healing	0	0.0
I don't know	27	17.9
Total	151	100

Figure 2: Pie chart shows kind of treatment teachers' believe is given to an epileptic child



Hospital treatment was the most cited method of treatment for epilepsy. About 119 (79%) of the 151 respondents believed epilepsy could be treated by orthodox medicine, while Traditional (herbal) treatment were the second choice (18%), and the rest (3%) did not know (Table. 9 and Fig. 2).

4.7 Presence of school Nurse

Table 10: Presence of school Nurse in both Schools (n=151)

Response	Frequency (n)	Percent %
Yes	7	4.6
No	144	95.4
Total	151	100

Only a small proportion (4.9%) of the 151 responders said that there is a school nurse who provides an emergency care during epileptic seizures. There was only one private school which is boarding school in the study area and that school had a nurse. There were no any School Nurses from government Schools.

4.8 Easily Availability of antiepileptic drugs

Antiepileptic drugs are freely available at Kilombero from all health care delivery system such as Dispensaries, Health Centers and Hospital.

Table 11: Availability of antiepileptic drugs at Kilombero study area (n=151)

Response	**Frequency (n)**	**Percentage %**
Yes	23	15.2
No	82	54.3
I don't know	46	30.5
Total	**151**	**100**

Only a few of the responders 23 (15.2%) knew that antiepileptic drugs were available, 82 (54.3%) believed they were not available and the remaining 46 (30.5%) don't know if the drugs are available in the health facilities and pharmacies (Table. 11).

4.7 Presence of school Nurse

Table 10: Presence of school Nurse in both Schools (n=151)

Response	Frequency (n)	Percent %
Yes	7	4.6
No	144	95.4
Total	151	100

Only a small proportion (4.9%) of the 151 responders said that there is a school nurse who provides an emergency care during epileptic seizures. There was only one private school which is boarding school in the study area and that school had a nurse. There were no any School Nurses from government Schools.

4.8 Easily Availability of antiepileptic drugs

Antiepileptic drugs are freely available at Kilombero from all health care delivery system such as Dispensaries, Health Centers and Hospital.

Table 11: Availability of antiepileptic drugs at Kilombero study area (n=151)

Response	**Frequency (n)**	**Percentage %**
Yes	23	15.2
No	82	54.3
I don't know	46	30.5
Total	**151**	**100**

Only a few of the responders 23 (15.2%) knew that antiepileptic drugs were available, 82 (54.3%) believed they were not available and the remaining 46 (30.5%) don't know if the drugs are available in the health facilities and pharmacies (Table. 11).

4.9 Helping a child with epileptic attack in the classroom

Table 12: Kilombero Teachers reported actions when a child has epileptic seizure

Response	Frequency (n)	Percent %
To transfer to safety and keep ventilated	89	58.9
To give medication or refer to the Hospital	6	4.0
To call the parents or run away,	56	37.1
I dont know	0	0
Total	**151**	**100**

Of the 151 respondents, (58.9%) mentioned performing a potentially necessary and appropriate first aid, and (37.1%) (Table. 12) preferred calling the parents or running away from the child. Only few respondents (4%) would give medication or refer to the health facility.

4.10 Respondents who would object to having a student with epilepsy in their class

Table 13: Respondents who would object to having a student with epilepsy in their class (n=151)

Response	Frequency	Percent %
Yes	9	6
No	142	94
Total	**151**	100

Almost no teachers (94%) would object to having a student with epilepsy in their class, few of the respondents (6%) agreed they would discriminate against them although were not asked if would prefer to place all children with epilepsy in special classroom (Table. 13) above.

4.11 Allowing their own children to play with epileptic child

Table 14: Would Teacher allow their children to play with epileptic child (n=151)

Response	Frequency (n)	Percent %
Yes	132	87.4
No	19	12.6
Total	**151**	**100**

Of the 151 teachers about 87.4% would allow an epileptic child to play with their children and 19 (12.6%) of them would not allow a child with epilepsy to play with their children (Table. 14) above. However in comparison only (15.2%) of respondents believed epilepsy is not contagious (Table.4) while the majority of respondents (87.4%) would allow their children to play with epileptic child.

4.12 Association between teaching experience and their knowledge of epilepsy.

Table 15: Association between teaching experience and their knowledge of epilepsy

		Ever helped epileptic child		Total
Response		Yes	No	Don't know
Teaching Experience	<1yrs	25(80.6)	6(19.4)	31(100)
	1-5yrs	26(78.8)	7(21.2)	33(100)
	>5yrs	52(59.8)	35(40.2)	87(100)
Total		**103(68.2)**	**48(31.8)**	**151(100)**

$X^2 = 6.772$, $df = 2$, $P < 0.034$, Significant.

The association between the teaching experiences and their knowledge of epilepsy shows that, the majority of respondents 68.2% have provided first aid for an epileptic child with seizures.

Those individuals with longer teaching experiences have more often helped a child with seizures. The results were statistically significant (X^2 =6.772, df = 2, P < 0.034, (Table. 15). Teachers with longer experience were more likely to have helped a child with epileptic seizures.

4.13 Association between level of teacher's knowledge of epilepsy and level of education.

Table 16: Association between level of teacher's knowledge of epilepsy and education level

	Level of Knowledge			
Education level	Poor (%)	Moderate (%)	Good (%)	Total (%)
Primary	2 (28.6)	4 (57.1)	1 (14.3)	7 (100)
Secondary	21 (15.9)	82 (62.1)	29 (22.0)	132 (100)
Tertiary and other training	2 (16.7)	6 (50.0)	4 (33.3)	12 (100)
Total	**25 (16.6)**	**92 (60.9)**	**34 (22.5)**	**151 (100)**

X^2 =1.778, df = 4, P < 0.776, Not Significant

Table: 16 above shows lack of association between level of education and teacher knowledge. The majority of respondents have some knowledge with respect to childhood epilepsy. However not all teachers with lack of experience have lack of knowledge.

CHAPTER FIVE: DISCUSSION

This study evaluated a number of general and specific aspects of teachers' knowledge and practices toward childhood epilepsy. The results obtained have important implications for students with epilepsy, their families, and those concerned with their education, as well as for epilepsy professionals. The findings are discussed here in terms of these implications and the need for additional research. In general most of the teachers had been familiarized with epilepsy in this study as reported from other reports findings done in assessing teachers' knowledge.

The findings of this study shows that the majority of teachers 142 (94%) would not discriminating an epileptic child, and among them 132 (87.4%) will allow their own children to play with epileptic child regardless of his/her condition. Only (6%) few teachers did mention any discrimination the epileptic child. The response seems to be higher compared to the previous studies this may be due to nature of teachers' profession being easily understanding child health problems. The same results findings were documented in Brazil by Dantas et al.,(2001) whereby only (15%) of teachers objected to having epileptic children in their classes and preferred to place epileptic children into a special room this might result from fear of handling the seizure of student in the class and also fear of being infect other students.

In this study the majority (56.3%) of teacher believed that epilepsy is contagious this high response may also reflect individuals who would avoid a person having seizures. The high frequency of individuals believe epilepsy is contagious is due to the fact that there is lack of Health information particular on addressing epilepsy condition among the teachers especially in rural settings where there is a lot of misconception about the nature of the disease. This means it highly demonstrate the need for educational programmes aimed at making easier to understand and less complicated by explaining epilepsy in a simple way to all teachers at Kilombero District.

In this study, results show that (18%) of 151 teachers mentioned epilepsy is treated by traditional healers and (79%) mentioned Hospital treatment. However there were no respondents who would send epileptic child to the spiritual healer. This findings is not similar to the one reported

by Matuja, Rwiza and Kilonzo (1994) in KAP toward Epilepsy among rural Tanzanian residents whereby (45.3%) preferred traditional medicine while the majority (50.8%) mentioned Hospital treatment. The low frequency of Teachers mentioned traditional mode of treatment on epilepsy may be due to the fact that school teachers have at least basic knowledge about child health problems including epilepsy. In another study findings (19%) were preferred traditional medicines Kabir, 2005. This may be even more pronounced in urban setting where teachers are more educated and may access for current health information from different sources.

Table 17: Comparison between Hospital and traditional treatment of epilepsy

Author Date of study	Place	Respondents	Preferred Hospital treatment	Preferred traditional medicine
Kabir et al., 2005	Nigeria	200	34%	19.0%
Rwiza et al., 1993	Tanzania	3256	50.8%	45.3%
Sehaba 2010	Tanzania	151	79%	18%

Table 17 above shows previous studies and number of individuals chosen one of the treatments for epilepsy. These results seem to be not similar to teacher's responses at Kilombero District.

The results of practice on teacher action when a child has epileptic seizure in the classroom appear also to indicate a positive trend with respect to general knowledge. Up to (63%) of Teachers mentioned performed a potentially necessary and appropriate first aid to the epileptic child could be divided into two broad categories: (a) Nothing is done and the teacher runs away or calls the parents, (b) Something is done like transfer to safety and keep ventilation or referral to health care unit. For the former, this behavior arose from the false believe and fear of many people about epilepsy. The wrong information given to the people as epilepsy is contagious disease may also have impact on supporting Teachers provide inappropriate first aid practice measure.

The association between the teaching experiences and care for epileptic seizures shows that, the majority of respondents 68.2% have provided first aid for an epileptic child with seizures. Those individuals with longer teaching experiences have more often helped a child with seizures. The results were statistical significant (X^2 =6.772, df = 2, P < 0.034. Teachers with longer experience were more likely to have helped a child with epileptic seizures; scores on both the knowledge scales and practice of epilepsy were associated with more years of teaching experience. These findings are similar from other studies done in other countries, in United States of America Bishop and Boang, (2006) reported positive relationship between higher levels of education and knowledge toward persons with disabilities. However in comparison with other, about half of the respondents who had experience with first aid measures of seizures also used improper and potentially harmful measures such as to pull the tongue Fabio et al., (2001). These difficulties were mainly due to poor educative programs in epilepsy. Teachers on the other hand reported that they could do some first aid measure like to transfer a child to the safety and refer to health care unit.

The answer to the question of epilepsy could be cured if treated early. Only (8.0%) of the 151 teachers believed epilepsy is a curable disease, others (67.5%) believed that epilepsy is not curable and the rest don't know (24.5%) if epilepsy can be cured. This result is highly interesting and challenging to the community as there is no clear cut for permanent cure for epilepsy. To compare with other results findings from Mahenge-Tanzania about (27%) of respondents believed epilepsy is a curable condition while (36.8%) believed it could never be cured and the rest (36%) did not know. Many literature findings supporting that epilepsy can be treated but it is difficult to cure permanently. Approximately 20-30% of patients do not achieve seizure control with drug treatment, although some few cases can be treated by surgical intervention (Johnstone, 2004). Most of the children attended psychiatric clinic and treated with Carbamazepin had achieved good prognosis after long time of daily use of AEDs.

Unfortunately, many schools (95.1%) in our country still do not have school Nurses who provide care for epileptic emergencies like management of seizures and drugs administration. There was

only one international private school in the study area with one nurse. This situation is probably due to the results of the educational structure of our country as most of the Primary Schools do not have school nurse or first aid kit for emergencies like handling epileptic seizures. The results may reflect the tendency of our elementary primary education in Tanzania where by parent is the responsible for the care of their children and not the school.

Although the Government through the Ministry of Health and Social Welfare has done several important efforts to make sure AEDs are available at all level of health care delivery, still there is a problem in getting the AEDs in the community such as most of the pharmacies and medical stores owners do not keep AEDs for one reason that such drugs are of less demand. The present study results show that (15.2%) of teachers had the right information about where to get antiepileptic drugs. Unfortunately the majority (84.8%) of teachers said that antiepileptic drugs were not available in their setting. The lack of knowledge of availability of AEDs could be one of the factors that lead to difficulties in managing epilepsy especially in rural settings. Antiepileptic drugs are very important during seizures attack; much literature shows that use of antiepileptic drugs usually prevents recurrent seizures in a particular epileptic child life The AEDs are provided free of charge as they are not included in cost sharing DMO Kilombero, (2008).

Comparison of these findings with those of other studies in region Africa shows the improvement of using Hospital treatment but there is a problem among the community on how to use the AEDs plus adequate supervision ensuring proper supervision as other studies findings suggested (Rwiza et al., 1992). The reason behind for this difference could be due to inadequate public information about epilepsy. Specifically, teachers identified the need for more information about seizures classification, first-aid measure on how to handle seizures in the classroom and helping other students understand seizures and epilepsy and effective parent-teacher communication.

CHAPTER SIX: CONCLUSION RECOMMENDATION AND IMPLICATION

6.1 Conclusion

This study has shown that knowledge and practices on epilepsy is still a problem among the school teachers in Tanzania. In order to improve awareness of epilepsy, primary school teachers' knowledge and understand of epilepsy has an importance; it helps in providing assistance to the few community mental health care providers especially nurses who care for the epileptic children especially in a distant area. There is a need for teacher's educational programmes aimed at giving school teachers to knowledge about handling of children with epilepsy.

The present study represents a small study collection of data on teachers' knowledge and practice about childhood epilepsy in Tanzania. It may be said that the results suggest a somewhat positive reflection of Teachers' knowledge about epilepsy. The research also provides awareness on the teachers' practices pertaining to childhood epilepsy in rural settings. It is hoped that findings from this study will add necessary information to the ministries of Health and Social Welfare and Ministry of Education and Vocational Training, for the good future planning of effective intervention strategies among the school teachers.

Many efforts have been done by the Ministry of Education and Vocational training in Tanzania to train teachers in special education program for children with special needs, but awareness of teachers towards care of epilepsy appears to be lacking among the teachers. To address this issue, the results suggest that, the potential role that teachers play in the relationship between child educational basis, future success and quality of life are of importance.

The strategy is needed to promote adaptive parenting skills, social skills training in the educational system (Mental Health Policy Guidelines, 2006). Parents and community should be educated on care of epileptic children by spending time supporting them and good parent-child communication and child-teachers' relationship. In this aspect nurses have the big role to play on preparing teaching programs on awareness of epilepsy to the community. There is a need for further assessment of the role of teachers in the psychosocial development and quality of life of

pupils with epilepsy. Meanwhile teachers' knowledge and methods of helping pupils with chronic illness such as epilepsy, and ongoing development and implementation of epilepsy education programmes are highly considered necessary.

6.2 Recommendations

1. School health services should be created in order to have supportive environment for epileptic children especially by ensuring sufficient knowledge and good practices about epilepsy. It is necessary to increase awareness of and access to the issues that already address many of the questions teachers have, such as are available of good health services including management for chronic illness such as epilepsy.

2. The satisfactory level of knowledge and poor practices identified from results, need for teachers' college curriculum programmes to be reviewed and should be based on teachers' special program for care of child health emergencies including epilepsy. Teachers are usually in touch with epileptic children and the parents from the early child school life. This requires a better educative program. It is necessary to identify ways to increase exposure to accurate epilepsy information and provide information about appropriately handling seizures at all level of teachers college and in the working area. There is a need of reviewing health policy which does not give an equal chance of funds allocation on mental illness including epilepsy.

3. Further research using both quantitative and qualitative approaches is required in order to understand better management of childhood epilepsy among the community. Meanwhile through working with zones reports on prevalence and burden of epilepsy and having scientific conferences will help to address the problem of childhood epilepsy to the community.

6.3 Nursing implications

The implication of the present study for nurses will help specialist Mental Health Nurses at all level to conduct training for school Teachers in Tanzania. Nurses in our country play an important role as they have an understanding of seizures and medications such as antiepileptic drugs AEDs, which should be shared with teachers who know the epileptic student and learning difficulties encountered during their school life. Specialist Nurses in the community have also to assess the methods they are using to help and giving education to the parents and family members who are living with the epileptic child. Nurses are competent on appropriately handling epileptic seizures, hence they are likely able to provide the necessary information on handling seizures in educational setting to teachers in guidance and workshops.

References

Al- Adawi, S., Al-Ismaily., Martin, S., Al-Naamani, R., Al-Riyamy, A., Al- Maskari, K. & Al-Hussaini, M. Psychosocial aspects of epilepsy in Oman. *Epilepsia* 2001; 42: 1476-81.

Austin, J. Impact of epilepsy in children. *Epilepsy Behavior* 2000; 1: 9-11.

Bishop, M. & Boag, M.E. Teacher's Knowledge about epilepsy and attitudes toward students with epilepsy: Results of a national survey: *Epilepsy & Behavior* 2006; 8: 397-405.

Doughty, J., Barker, G., Jackoby, A., & Lavard, V. Public Knowledge and attitudes toward epilepsy in Kuwait. *Epilepsia* 2003; 44: 115-123.

Fabio, G.D., Gibran, A.C., Gustavo, A. & Antonio, R.F. Knowledge and attitudes toward Epilepsy among Primary, Secondary and Tertiary level Teachers. Neuropsiquiatr 2001; 59:712-716.

Hsieh, L. & Chiou, H. Comparison of epilepsy and asthma perception among preschool teachers in Taiwan. *Epilepsia* 2001; 42:647–50.

Jallon, P., Loiseau, J. & Loiseau, P. Newly diagnosed unprovoked epileptic seizures. *Epilepsia* 2001; 42: 464-475.

Johnstone E.C, Owens C.D.G, Lawrie. M.S, Sharpe M and Freeman C.P.L (2004). Comparison to Psychiatric studies. Seventh Edition. Edinburgh; UK. Churchill Livingstone.

Kabir, M., Iliyasu, Z., Abubakar, I.S., Kabir, S. & Farinyaro, A. Knowledge, Attitude and Beliefs about Epilepsy among adults in a Northern Nigerian Urban community. *Epilepsia* 2005; 4: 107 – 112.

Kobau, R. & Price, P. Knowledge of epilepsy and familiarity with this disorder in the U.S. population: results from the 2002 Health Styles Survey, *Epilepsia* 2003; 44: 1449–1454.

Kirkwood, B.R. & Sterne, J.A. Essential Medical Statistics. Second edition, 2003. Massachusetts: Blackwell Science.

Matuja, W.B. & Rwiza, H.T. Knowledge, attitude and practice (KAP) towards epilepsy in secondary school students in Tanzania. *Central Africa Journal Med* 1994; 40:13-18.

Maylahn, C. & Steele, L. Epilepsy among adults in New York State. *Epilepsia 2004; 45:1613-1622.*

Millogo, A. & Siranyan, A .S. Knowledge of epilepsy and attitudes towards the condition among school teachers in Bobo - Dioulasso, Burkina Faso. *Epileptic Disorder* 2004; 6: 21-26.

Ministry of Education and Vocational Training, (2005-2009), National Data, Basic Education Statistics in Tanzania (BEST).

Ministry of Health and Social Welfare, Tanzania mainland, (2006), Mental Health Policy Guidelines, attendees NCD, Mental Health and substance Abuse Section, April. 2006.

Ministry of Health and Social Welfare, (2008), National Mental Health report, United Republic of Tanzania.

Mustafa, K., Candan, C., Betul, K., Placensia, M. & Shorvon, S. Epilepsy prevalence in a rural area Istanbul. *Epilepsia* 2002; 11: 397- 401.

Nyame, P.K., Biriwum, R.B. Epilepsy: Knowledge, attitude and practice in literate urban population, Accra, Ghana. *West African Journal Med* 1997; 16: 139-145.

Ndour, D., Diop, A.G., Ndiaye, M., Niang, C. & Ndiaye, I.P. A survey of school teacher's knowledge and behaviors about epilepsy in a developing country such as Senegal. *Neural (Paris)* 2004; 160: 338-341.

Odermatt, P. Availability and costs of antiepileptic drugs and quality of phenobarbital in Vientiane municipality, Lao PDR. *Neuroepidemiology* 2008; 28: 169-74.

Ojinnaka, N. Teachers' perception of epilepsy in Nigeria: a community based study. *Seizure* 2002; 11: 386-391.

Rwiza, H.T., Matuja, W.B., Kilonzo, G.P., Haule, J., Mbena, P., Mwangombola, R. & Jilek-Aall, L. Knowledge, attitude and practice toward epilepsy among rural Tanzanian residents. *Epilepsia* 1993; 34: 1017-1023.

Scott, R.A., Lhatoo, S.D. & Sander, J.W. The treatment of epilepsy in developing countries: Where do we go from here? World Health Organization 2001; 79: 344-51.

Tanzania National Bureau of Statistics, National census. (2003). Ministry of Local Government and Regional Administration.

Wallander, J. L., Thompson, R. J. J. & Alriksson, S. A. Psychosocial adjustment of children with chronic epilepsy in childhood. Developmental Medicine and Child Neurology 2003; 45:50–54.