



**ST PAUL'S HOSPITAL MILLENNIUM MEDICAL COLLEGE,
DEPARTMENT OF PUBLIC HEALTH**

**KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) TOWARDS
EPILEPSY AMONG PREPARATORY STUDENTS ATTENDING
MEDHANIALEM PREPARATORY SCHOOL, ADDIS ABABA,
ETHIOPIA**

**STUDENT RESEARCH REPORT SUBMITTED TO THE DEPARTMENT
OF PUBLIC HEALTH, SPHMMC. IN PARTIAL FULFILLMENT FOR
THE REQUIRMENTS OF DEGREE OF DOCTOR OF MEDICINE**

PREPARED BY-EDEN DEGU (Intern)

PUBLIC HEALTH ADVISOR- Mr. Tewodros Fantahun (MPH)

**CLINICAL ADVISOR- Dr. Tesfaye Berhe (Assistant professor of
internal medicine, Neurologist)**

JULY, 2018

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Content

Acronyms and Abbreviations.....	iii
List of tables.....	iv
List of figures.....	v
List of appendices.....	vi
Acknowledgement.....	vii
Summary.....	viii
1. Introduction.....	1
1.1 Background of the study.....	1
1.2 Statement of the problem	2
1.3 Significance of the study	2
2. Literature review.....	3
3. Objective of study	5
3.1 General objectives	5
3.2 Specific objective.....	5
4. Methods and material	5
4.1 Study area	5
4.2 Study design.....	5
4.3 Study period	6
4.4 Population and sampling	6
4.4.1 Source population	6
4.4.2 Study population	6
4.4.3 Study subject.....	6
4.4.4 Inclusion and exclusion criteria	6
4.4.5 Sample size determination	6
4.4.6 Sampling technique.....	7
4.5 Data collection	7
4.6 Study variables	7
4.7 Operational definitions	8
4.8 Data processing and management	8
4.9 Data analysis.....	8
5. Ethical consideration	8
6. Dissemination of findings	8
7. Results	9
8. Discussion.....	19

9. Conclusion and Recommendations.....	21
10. Strengths and Limitations.....	21
11. Reference.....	22

Acronyms and Abbreviations

SPSS: Statistical package for social science

SPHMMC: St. Paul's hospital millennium medical college

PWE: People with epilepsy

A.A: Addis Ababa

CSA: Central Statistics Agency of Ethiopia

KAP: knowledge, attitude and practice

WHO: World Health organization

G.C: Gregorian calendar

BC: Before Christ

KBP: knowledge, belief, practice

List of tables

Table 1. Socio demographic characteristics of study participants in Medhanialem preparatory school, Gulele subcity, A.A, Ethiopia

Table 2. Association of selected sociodemographic and related factors for Knowledge about epilepsy among preparatory students in Medhanialem preparatory school, Gulele subcity, A.A, Ethiopia

Table 3. Association of selected sociodemographic and related factors for Attitude towards epilepsy among preparatory students in Medhanialem preparatory school, Gulele subcity, A.A, Ethiopia

Table 4. Association of selected sociodemographic and related factors for Practice related to epilepsy among preparatory students in Medhanialem preparatory school, Gulele subcity, A.A, Ethiopia

List of figures

Figure 1. Prevalence in study participants of good knowledge, favorable attitude, and safe practice related to epilepsy among preparatory students attending Medhaniallem preparatory school, Gulele subcity, A.A, Ethiopia

List of Appendices

Annex I Questionnaire

Acknowledgement

First of all I would like to thank God almighty for his constant help and grace. Then I would like to express my gratitude to my public health advisor and clinical advisor for all their valuable counsel and guidance. I would also like to thank the director, teachers and students of Medhanialem preparatory school for their willingness, cooperation and participation. Finally I would also like to thank my friends and colleagues who helped me complete this research.

Summary

Background: Epilepsy is a chronic non-communicable disorder of the brain that affects people of all ages, worldwide. Fear, misunderstanding, discrimination and social stigma have surrounded epilepsy for centuries and this stigma continues in many countries today and can impact on the quality of life for people with the disorder and their families.

Objective: The aim of this cross-sectional descriptive study is to assess the knowledge, attitude and practice towards epilepsy among preparatory students attending Medhanialem preparatory school, Gulele sub city, Addis Ababa in the year 2018 G.C.

Methods: This study was conducted in Medhanialem preparatory school. Sample size was calculated by using single population proportion sample formula. Study subject were selected using systematic random sampling method. Data was collected with a self-administered, semi-structured questionnaire used previously by various authors and analyzed by statistical package for social sciences (SPSS) version 23. Descriptive statistics, binary and multiple logistic regressions were performed.

Results: About 80 % of the participants had heard or read about epilepsy and 85.8 % had claimed to have witnessed a seizure while 78.3 % claimed to know someone with epilepsy. And 68.5 %, 84.7 %, and 93.9 % of respondents had good knowledge, favorable attitude, and safe practice related to epilepsy, respectively. The following factors had significant association with knowledge, attitude, and practice towards epilepsy: educational status, knowing someone with epilepsy, knowledge, medical personnel and friend as source of information about epilepsy.

Conclusions: In this study the findings indicated that the students of Medhanialem Preparatory school were familiar with epilepsy, most of them had favorable attitude and safe practice related to epilepsy but had vague knowledge about epilepsy and misunderstandings regarding management of seizures.

1. Introduction

1.1 Background of the study

Epilepsy is a chronic non-communicable disorder of the brain that affects people of all ages, worldwide. It is defined as having 2 or more unprovoked seizures which are intermittent stereotyped disturbances of consciousness, behavior, emotion, motor or sensory function that on clinical grounds is believed to result from cortical neuronal discharge. Different parts of the brain can be the site of such discharges. These usually manifest with 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. They can vary from the briefest lapses of attention or muscle jerks to severe and prolonged convulsions. It is one of the world's oldest recognized conditions with written records dating back to 4000BC. Fear, misunderstanding, discrimination and social stigma have surrounded epilepsy for centuries and this stigma continues in many countries today and can impact on the quality of life for people with the disorder and their families.

According to the updated February 2017 WHO fact sheet approximately 50 million people currently live with epilepsy worldwide. The estimated proportion of the general population with active epilepsy (i.e continuing seizures or with the need for treatment) at a given time is between 4 and 10 per 1000 people; these numbers can be much higher, between 7 and 14 per 1000 people in low and middle income countries. Globally, an estimated 2.4 million people are diagnosed with epilepsy each year. In high-income countries annual new cases are between 30 and 50 per 100,000 people in the general population. In low- and middle-income countries this figure can be up to two times higher, likely due to the increased risk of endemic conditions such as malaria or neurocysticercosis, the higher incidence of road traffic injuries, birth related injuries and variations in medical infrastructure, availability of preventative health programs and accessible care. Close to 80% of people with epilepsy live in low- and middle-income countries. In Ethiopia the prevalence of epilepsy was 5.2/1000 inhabitants at risk, 5.8 for males and 4.6 for females. The highest age specific prevalence was found for ages 10-19 years. The annual incidence of epilepsy was 64 in 100,000 inhabitants at risk, 72 for males and 57 for females. (1)

Epilepsy is not contagious. The most common type of epilepsy which affects 6 out of 10 people with the disorder is called idiopathic epilepsy and has no identifiable cause. Epilepsy with a known cause is called secondary or symptomatic epilepsy. The causes can be brain damage from prenatal or perinatal injuries, congenital abnormalities or genetic conditions with associated brain malformations, severe head injury, stroke, infection of the brain such as meningitis, encephalitis, neurocysticercosis, certain genetic syndromes and brain tumor.

Epilepsy can be treated easily and affordably with inexpensive daily medications. Recent studies in both low and middle income countries have shown that up to 70% of children and adults with epilepsy can be successfully treated and their seizures completely controlled with anti-epileptic

drugs. Furthermore, after 2 to 5 years of successful treatment and being seizure free drugs can be withdrawn in about 70% of children and 60 % of adults without subsequent relapse. (1)

Religious and socio-cultural beliefs influence the nature of treatment and care received by PWE. Wrong perceptions and beliefs about epilepsy create serious negative social and psychological consequences for PWE such as fear, humiliation, and limitations in social interactions. One of the greatest challenges facing the optimal management of epilepsy is stigma and discrimination. In particular, incorrect information about the causes and inheritability of epilepsy increase the stigma and make the lives of PWE more difficult. Many communities in Africa believe that epilepsy results from insanity, witchcraft or possession by evil spirits. Persons with epilepsy are shunned and discriminated against education, employment and marriage because epilepsy is seen as a highly contagious and shameful disease in the eyes of the public. (2) Although the etiology of stigma and discrimination is complex, lack of the knowledge regarding epilepsy is purported to be an important determinant of negative attitudes. (3)

1.2 Statement of the problem

Epilepsy is quite a prevalent yet misunderstood disorder in many countries all over the world including Ethiopia. Persons with epilepsy face discrimination and stigma instead of support from the society they live in. Stigma and discrimination cause more suffering to epileptics than the actual fits. Although the causes of stigma are complex, a lack of knowledge about epilepsy has been considered to be an important determinant factor in the negative attitudes towards people with this clinical condition. (7)

A study conducted in Mekelle city, Ethiopia showed that negative attitudes seemed to be reinforced by beliefs that epilepsy is evil spirits (33.24%), contagious (28.6%) or a kind of insanity (51.6%). The study also revealed that practices and knowledge toward epilepsy were limited, especially with respect to epilepsy's cause, manifestation, and management. Social discrimination against people with epilepsy affects mainly school children as they are growing and have interactions at multiple levels.

A necessary first step to increasing the knowledge and changing attitudes among students in particular and the population in general, is to assess what they already know. Gauging the knowledge, attitude and understanding of epilepsy is the first measure towards alleviating discrimination. (2) Therefore, the present study was conducted to assess the knowledge, attitude and practice towards epilepsy among preparatory school students of Medhaniealem High school.

1.3 Significance of the study

Although there are studies conducted on KAP towards epilepsy in high school students in different parts of Ethiopia, none have been done in Addis Ababa. In order to optimize the care and support towards PWE it is important to assess the knowledge, attitude and practice towards them. This study is directed towards preparatory school students, educated students who have been influenced and shaped not only by their formal education but their families and the society they live in.

Assessing their understanding of epilepsy can give us a look into the society they live in. And these students are also about to join the community as more active participants and therefore reaching them can be a way of reaching their families and the society they will serve later on. So this study will provide important entry points for interventions to educate the public and increase awareness and understanding about epilepsy and dispel myths surrounding the condition and thereby change negative attitudes, relieve the stigma and discrimination faced by PWE.

2. Literature review

In a cross-sectional study conducted in Central Nepal among 1360 high school students from 33 private schools across Bharatpur, from June 2013 to July 2013 to assess their knowledge, beliefs and practices on epilepsy using a standardized questionnaire; 79 (5.8%) students had never heard or read about epilepsy and were consequently excluded from statistical analysis. Only 261 out of 1360 (19.2%) had personally known someone with epilepsy. The mean KBP scores were 5.0/8, 7.4/12, and 1.7/3, respectively. Statistically significant differences were only observed in the knowledge component of the KBP score; female scored higher than males ($p < 0.001$) and, interestingly, students who had personally known a person with epilepsy actually knew less than those who had not known one ($p = 0.018$). We also found a significant negative correlation between knowledge and age ($p = 0.003$). Conclusions. The overall knowledge, beliefs, and practices appear to be inadequate, emphasizing the need for further educational intervention. (3)

In a cross-sectional descriptive study conducted in Enugu, South East Nigeria, among secondary school students at a junior/senior secondary school as part of an epilepsy awareness campaign conducted in the year of 2010 to assess the knowledge, attitude and practice towards epilepsy out of 2000 students, the majority of the students (87.6%) had heard of epilepsy as a disease. The commonest sources of information were the electronic media (36.4%) and family members (25.6%). More than half (59.4%) had witnessed a convulsion in the past and 8.9% had a family member with epilepsy. Jerking (50.6%) and loss of consciousness (47.4%) were identified as the commonest manifestations of epilepsy. Epilepsy was considered a psychiatric disorder by 51.9% and as an infectious disease by 40.6%. About 39.3% considered epilepsy to be due to spiritual causes, old age or poisoning/bad blood. A total of 63.1% regarded orthodox medicine and prayers as the best means to treat epilepsy, while 6.8% chose herbal remedies. Concerning first aid treatment, 50.6% agreed that an object should be inserted into the mouth, while 49.5% would call for medical help and 28.8% would remove the person from harm. On attitude, 64.9% would not keep a friend with epilepsy, 69.1% would not play with someone with epilepsy, 84.2% would not marry someone with epilepsy. 41.1% of the students said that people with epilepsy should neither marry while 42.2% say they should not have children. Only 39.15% had an overall positive attitude towards people living with epilepsy. (4)

In a survey carried out in the three most populated secondary schools in the rural Batibo Health District, Cameroon: Government High School (2000 students), Presbyterian Highschool (750 students), and Government Technical School (300 students) to assess the knowledge, attitudes, and practice (KAP) toward epilepsy and identify determinants of inappropriate attitudes toward people with epilepsy (PWE) among 910 randomly selected secondary school students. Ninety-five percent of the students had heard or read about epilepsy, 73.3% knew an epileptic, and 76.4% had witnessed a seizure. Those who would offer equal employment opportunities to PWE, refuse to associate with, or refuse to marry PWE represented 58.6%, 25.4%, and 64.2%, respectively. Negative attitudes appeared to be reinforced by beliefs that epilepsy is hereditary (25.7%), contagious (49.9%), or a kind of insanity (38%). Acquaintance with PWE tended to improve the misconception that epilepsy is contagious ($p < 0.001$), and to reinforce the view that it is a form of insanity ($p < 0.01$). A successful epilepsy education program must account for local beliefs, and secondary school students may constitute a good channel for community education. **(6)**

In a cross-sectional study conducted in Mekelle city among 4,445 students who were studying grade eleven and twelve in one government and four private preparatory schools in Mekelle from March to June, 2011 about 85.7% had heard about epilepsy, 19.23% had read on the subject, 67.03% had known someone with epilepsy and 57.14% had witnessed a seizure. Those who would offer equal employment opportunities to people with epilepsy (PWE), refuse to associate with, or refuse to marry PWE represented 64%, 16.8%, and 44.8%, respectively.

Negative attitudes seemed to be reinforced by beliefs that epilepsy is evil spirit (33.24%), contagious (28.6%) or a kind of insanity (51.6%). Majority of respondents (70.33%) opted for Holy water, followed by physicians (64.01%), traditional healer (44.78%) and prayers (32.14%). **(2)**

In a community-based cross-sectional study with multistage sampling technique conducted in Oromia Regional State, Sululta Woreda, Ethiopia to assess the knowledge, attitude, and practice related to epilepsy and its associated factors by using a pretested, semi-structured questionnaire among 660 respondents living in Sululta Woreda, Oromia, Ethiopia, 59.8% of the respondents possessed knowledge about epilepsy, 35.6% had a favorable attitude, and 33.5% of them adopted safe practices related to epilepsy. The following factors had significant association to knowledge, attitude, and practice related to epilepsy: being rural dwellers, living alone, those with more years of formal education, heard information about epilepsy, distance of health facility from the community, had witnessed an epileptic seizure, age range from 46 years to 55 years, had heard about epilepsy, prior knowledge of epilepsy, occupational history of being self-employed or a laborer, history of epilepsy, and history of epilepsy in family member. **(5)**

3. Objective of study

3.1 General objectives

- To assess knowledge, attitude and practice towards epilepsy in preparatory students attending Medhanialem Preparatory school in the year 2018 G.C.

3.2 Specific objective

- To measure the knowledge of preparatory students attending Medhanialem Preparatory school concerning epilepsy
- To evaluate the attitude of preparatory students attending Medhanialem Preparatory school towards people with epilepsy
- To evaluate the practice of preparatory students attending Medhanialem Preparatory school towards people with epilepsy
- To determine any factors associated with the knowledge of epilepsy among the preparatory students attending Medhanialem Preparatory school
- To determine any factors associated with the attitude of epilepsy among the preparatory students attending Medhanialem Preparatory school
- To determine any factors associated with the practice of epilepsy among the preparatory students attending Medhanialem Preparatory school

4. Methods and material

4.1 Study area

This study was conducted at Medhanialem Preparatory school located in Gulele Subcity in Addis Ababa, Ethiopia. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), A.A has a total population of 3,384,569 and lies at an altitude of 7,546 feet (2,300 meters). The city has a surface area of about 530.14 square kilometer. Gulele Subcity is located in the northern part of Addis Ababa at an altitude of 2700 above sea level with a surface area of 30.18 square kilometer and is divided into 10 woredas and has a total population of 267,381. There are 15 high schools in the sub city; 9 private and 6 governmental and a total of 13,871 high school students. Medhanialem preparatory school is one of the governmental High schools in Gulele sub city, it was established in 1924 E.C under the order of Imperial Haile Selassie for orphaned children. Total number of preparatory students attending the school are 1743; 1052 11th grade students and 691 12th grade students. It has the largest number of students in Gulele sub city. The reason that it is the study area for this research is that it has a large number of students and a variety of students from different socio-demographics.

4.2 Study design

A cross-sectional study design was selected to conduct this particular research

4.3. Study period

This study was conducted from March, 2018 to July, 2018 G.C.

4.4 Population and sampling

4.4.1 Source population

All preparatory students attending Medhanialem Preparatory school

4.4.2 Study population

All preparatory students assigned to the randomly selected classes at Medhanialem Preparatory school

4.4.3 Study subject

All preparatory students assigned to the randomly selected classes who fulfill the inclusion criteria

4.4.4 Inclusion and exclusion criteria

The inclusion criteria was for preparatory students attending Medhanialem Preparatory school and available at the time of data collection who were willing to participate.

4.4.5 Sample size determination

Assuming a prevalence of 64% of positive attitude in a study conducted in Mekelle city, Ethiopia, the sample size will be calculated with confidence level of 95% and margin of error 5%. Where

N= study population which is 1743, the total number of preparatory students in Medhanialem

d= margin of error

p= proportion

α =level of significance

n = sample size

$$n = \frac{\frac{Z_{\alpha/2}^2 p(1-p)}{d^2}}{1 + \frac{1}{N} \left(\frac{Z_{\alpha/2}^2 p(1-p)}{d^2} - 1 \right)} = 295$$

4.4.6 Sampling technique

Systematic random sampling method was employed to choose participating students. A list of class sections with the student names was collected from the school director. Total number of 11th graders was 1052 and total number of 12th graders was 691 and for a sample size of 295 students the proportion of 11th graders was calculated to be 165 and the proportion of 12th graders was 130. Then for both 11th grade and 12th grade the first student was chosen by lottery method and with $k = N/n$, $k = 6$ and $k = 5$, the remaining students were chosen from each grade, respectively.

4.5 Data collection

Data was collected by using self-administered semi- standard questionnaires.

4.6 Study variables

Dependent variables

- ✓ Knowledge
- ✓ Attitude
- ✓ Practice

Independent variables

- ✓ Age
- ✓ Gender
- ✓ Grade
- ✓ Religion
- ✓ Marital status
- ✓ Address
- ✓ Having heard or read about epilepsy
- ✓ Source of information about epilepsy
- ✓ Knowing someone with epilepsy
- ✓ Witnessed an epileptic seizure

4.7 Operational definitions

On this study,

- “Good knowledge” was defined as when respondents scored $>50\%$ when answering questions related to knowledge about epilepsy
- “Poor knowledge” was defined as when respondents scored $\leq 50\%$ of questions related to knowledge about epilepsy
- “Favorable attitude” of participants was defined as when respondents scored $>50\%$ of questions related to attitude towards epilepsy
- “Unfavorable attitude” was defined as when respondents scored $\leq 50\%$ of questions related to attitude towards epilepsy
- “Safe practice” was defined as when respondents who scored $>50\%$ when answering questions concerning practice towards epilepsy
- “Unsafe practice” was defined for those who scored $\leq 50\%$ when answering questions concerning practice towards epilepsy according to a community based study done in Sululta Woreda, Oromia, Ethiopia [2].

4.8 Data processing and management

Questionnaires were checked for completeness and accurateness to determine the validity before entry.

4.9. Data analysis

Data from the questionnaire were coded, entered and analyzed using Statistical package for Social Sciences (SPSS 23) software. To observe the overall trends in the data, descriptive statistics was done for dependent and independent variables; and also association between dependent and independent variables were made by using chi square test and logistic regression. The variables significantly associated with the outcome with p value of < 0.05 and confidence interval of 95% in univariate analysis were entered for analysis with multivariable logistic regression model.

5. Ethical consideration

Approval from SPHMMC public health department, academic & research vice provost was received for this study prior to enrollment. Each participant adequately informed about the purpose, methods, and anticipated benefits of the study.

6. Dissemination of findings

The finding will first be submitted to SPHMMC public health department for evaluation purpose and a copy of it will be given to Medhanielem Preparatory School. Apart from this, I would like to share the contents of this research with available medical journals.

7. Results

7.1 Sociodemographic results

A total of 295 students completed the questionnaire. Among these 153 were males and 142 were females with a female to male ratio of 0.9. Average age was 18.23 years (range = 15–20); 286(96.9 %) and 9(3.1 %) of the participants were between the age of 15 to 20 and 21 to 25, respectively. Of the participant students 165 were 11th graders (55.9%) and 130 of them were 12th graders (44.1 %). Most of the participants said that they were Christians of various denominations, 263(89.2%). 91.2% of the students were unmarried. The majority of them resided in Gulele sub city, 148 (50.2%). The key demographic variables are summarized in Table 1.

Table 1. Distribution of socio demographics characteristics of students attending Medhanialem preparatory students, Gulele sub city, Addis Ababa

Variable		Frequency	Percentage
Age	15-20 years	286	96.9 %
	21-25 years	9	3.1 %
Gender	Male	153	51.9 %
	Female	142	48.1 %
Educational status	11 th grade	165	55.9 %
	12 th grade	130	44.1 %
Marital status	Unmarried	269	91.2 %
	Married	26	8.8 %
Religion	Orthodox Christian	221	74.9 %
	Catholic Christian	9	3.1 %
	Protestant Christian	27	9.2 %
	Muslim	25	8.5 %
	Jehovah's Witness	6	2.0 %
	Others	7	2.4 %
Address	Gulele	148	50.2 %
	Kolfe	56	19.0 %
	Burayu	39	13.2 %
	Arada	28	9.5 %
	Addis Ketema	22	7.5 %
	Sululta	2	0.7 %

7.2 Familiarity with Epilepsy

About 80 % of the participants had heard or read about epilepsy and 85.8 % claimed to have witnessed a seizure while 78.3 % claimed to know someone with epilepsy. 20.3 % of the respondents heard about epilepsy from a friend, while 20.3% of them heard from their families.

7.3 KAP related to epilepsy

According to the study 68.5 %, 84.7 %, and 93.9 % of respondents had good knowledge, favorable attitude, and safe practice related to epilepsy, respectively

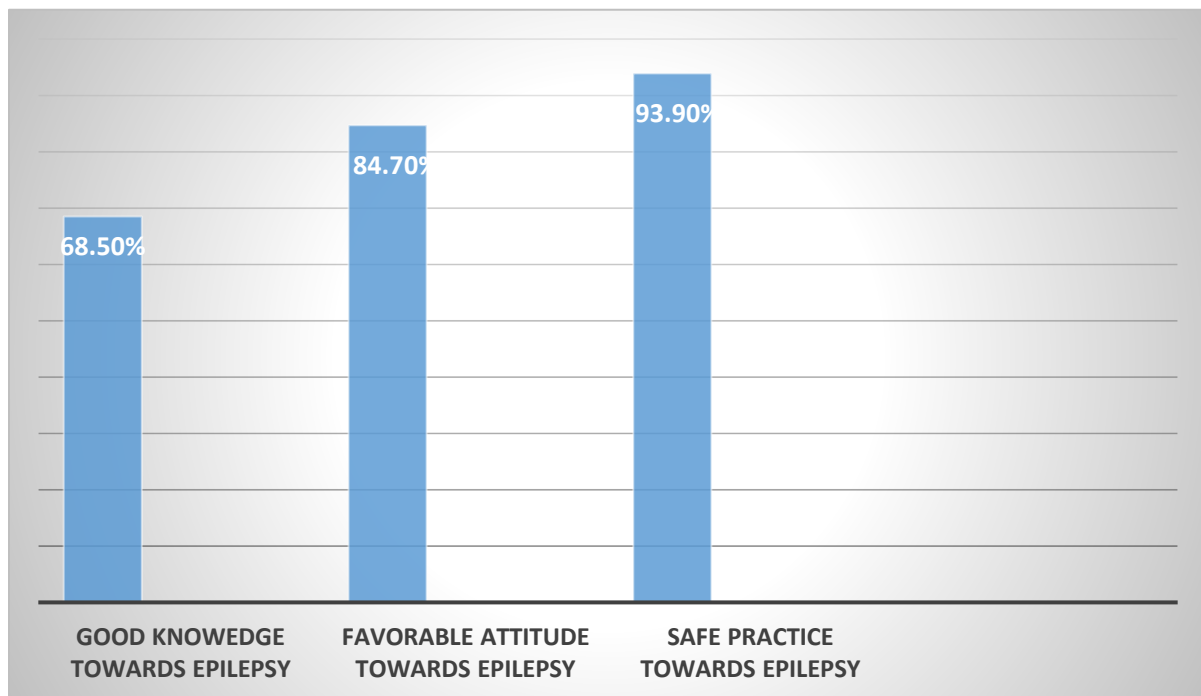


Figure 1. Prevalence in study participants of good knowledge, favorable attitude, and safe practice related to epilepsy among preparatory students attending Medhanialem preparatory school, Gulele sub city, Ethiopia

7.4 Knowledge towards Epilepsy

Concerning understanding about epilepsy 89.5% of the participants considered epilepsy non-contagious, 39% of them thought epilepsy inheritable, 78% thought epilepsy a curable disease and 61.7% of them thought epilepsy was a mental illness. Most participants chose more than one cause; 31.4% chose trauma, 22% chose brain tumors, 11.2% chose birth defects while 81.4% of them considered epilepsy as one of the inheritable diseases, 10.8% thought epilepsy a punishment from God, 20.7% considered it a result of witchcraft and 32.7% attributed the cause to evil spirits.

Moreover, concerning the manifestations of an epileptic fit, 62.4% recognized convulsion as a feature, 77.3% identified loss of consciousness, 16.6% recognized an episode of behavioral change and another 16.6% recognized a period of memory loss as symptoms. For those who considered epilepsy to be contagious the main methods of transmission identified were: body fluids (3.7%), sexual intercourse (3.4%) and blood (1%).

In bivariate and multivariate analysis educational status and knowing someone with epilepsy were found to have significant association with knowledge about epilepsy. In multivariate analysis 11th graders (AOR =1.7, 95% CI =1.026-2.838) were more knowledgeable about epilepsy than 12th graders. While students who knew someone with epilepsy (AOR =1.93, 95% CI =1.076-3.4

Table 2. Association of selected sociodemographic and related factors for knowledge related to epilepsy among preparatory students in Medhaniealem preparatory school, Gulele subcity, A.A, Ethiopia

Variables	Knowledge		Chi-square (p-value)	AOR (95%CI)	P-value
	Poor	Good			
Educational status			0.011		0.039
11 th graders	42	123		1.7(1.026-2.838)	
12 th graders	51	79		1	
Know someone with epilepsy			0.007		0.027
Yes	64	167		1.93(1.076-3.454)	
No	29	35		1	
Age			0.542		
15-20	91	195			
21-25	2	7			
Gender			0.288		
Female	44	109			
Male	49	93			
Religion			0.769		
Orthodox Christian	70	151			
Protestant Christians	8	19			
Catholic Christian	2	7			
Muslim	9	16			
Jehovah's witness	3	3			
Others	1	6			
Marital status			0.158		
Married	5	21			
Unmarried	88	181			
Address			0.783		
Gulele	51	97			
Burayu	11	28			
Kolfe	18	38			
Arada	7	21			
Addis ketema	6	16			

Sululta	0	2			
Having heard or read about epilepsy			0.900		
Yes	74	162			
No	19	40			
Witnessed a seizure			0.322		
Yes	77	176			
No	16	26			
Source of information					
Family member/parent	22	38	0.337		
Medical Personnel	5	21	0.158		
Friend	39	106	0.092		
Books	7	13	0.729		
Teacher	3	8	0.757		
Internet	5	19	0.239		
Media	20	49	0.604		

7.5 Attitude towards Epilepsy

From the participants, 82% would not object to making friends with people with epilepsy, while 38.6% would not allow marriage with PWE, 16.9% denied PWE equal job opportunities and the right to bear children, 71.9% thought there were jobs PWE cannot do, 88.1% were against discrimination towards PWE and 20.7% objected to their children playing with PWE.

In bivariate analysis knowledge and knowing someone with epilepsy were found to have association with attitude towards epilepsy. After multivariate analysis level of knowledge about epilepsy among the students had positive association with attitude and those who had good knowledge (AOR =2.8, 95% CI =1.444-5.375) were more likely to have favorable attitude as well.

Table 2. Association of selected sociodemographic and related factors for attitude towards epilepsy among preparatory students in Medhaniealem preparatory school, Gulele sub city, A.A, Ethiopia

Variables	Attitude towards epilepsy		Chi-square (p-value)	AOR (95%CI)	P-value
	Favorable	Unfavorable			
Knowledge			0.001		0.002
Good	181	21		2.8(1.444-5.375)	
Poor	69	24		1	
Know someone with epilepsy			0.04		0.131
Yes	201	30		1.734 (0.848-3.546)	
No	49	15		1	
Educational status			0.301		
11th graders	22	143			
12th graders	23	107			
Age			0.726		
15-20	44	242			
21-25	1	8			
Gender			0.830		
Female	24	129			
Male	21	121			
Religion			0.920		

Orthodox Christian	34	187			
Protestant Christian	4	23			
Catholic Christian	2	7			
Muslim	4	21			
Jehovah's witness	0	6			
Others	1	6			
Marital status			0.555		
Married	5	21			
Unmarried	40	229			
Address			0.343		
Gulele	22	126			
Burayu	3	36			
Kolfe	13	43			
Arada	5	23			
Addis ketema	2	20			
Sululta	0	2			
Having heard or read about epilepsy			0.105		
Yes	32	204			
No	13	46			
Witnessed a seizure			0.783		
Yes	38	215			
No	7	35			
Source of information					
Family member/parent	7	53	0.387		
Medical Personnel	1	25	0.090		
Friend	20	125	0.493		
Books	0	20	0.060		
Teacher	2	9	0.783		
Internet	2	22	0.325		
Media	6	63	0.083		

7.6 Practice towards Epilepsy

As first aid for a person having seizures, 59% would take them to health center, 64.7% would splash them with water, 45.1% would provide match stick smoke, 50.8% would move them from harm, 7.8 % would hold or tie them down, 6.4% would put something in their mouth and 1.7% would do nothing.

56.2% of the students recommend PWE to see a medical professional while 64.4 %, 49.5%, 10.5%, and 3.1% recommend Holy water, prayer, traditional medicine and witchcraft respectively.

Bivariate and multivariate analysis was done and showed association between medical personnel and friends as a sources of information and practice towards epilepsy. Those who gained their understanding of epilepsy from medical personnel had safer practice (AOR =3.85, 95% CI =1.12-13.243). While students who acquired their knowledge about epilepsy from their friends (AOR =4.2, 95% CI =1.33-13.31) had safer practice as well. There was no significant association between knowledge and practice in this study. Neither was there any significant association between attitude and practice.

Table 2. Association of selected sociodemographic and related factors for practice related to epilepsy among preparatory students in Medhanialew preparatory school, Gulele subcity, A.A, Ethiopia

Variables	Practice towards epilepsy		Chi-square (p-value)	AOR (95%CI)	P-value
	Safe	Unsafe			
Source of information			0.038		0.032
Medical personnel					
Yes	22	4		3.85(1.12-13.243)	
No	255	14		1	
Source of information			0.012		0.014
Friends					
Yes	131	14		4.2(1.33-13.31)	
No	146	4		1	
Educational status			0.151		
11 th graders	13	152			
12 th graders	5	125			
Age			0.437		
15-20	18	268			
21-25	0	9			

Gender			0.104		
Female	6	147			
Male	12	130			
Religion			0.085		
Orthodox Christian	12	209			
Protestant Christian	1	26			
Catholic Christian	0	9			
Muslim	1	24			
Jehovah's witness	1	5			
Others	3	4			
Marital status			0.723		
Married	2	24			
Unmarried	16	253			
Address			.065		
Gulele	9	139			
Burayu	4	35			
Kolfe	1	55			
Arada	1	27			
Addis ketema	2	20			
Sululta	1	1			
Having heard or read about epilepsy			0.114		
Yes	17	219			
No	1	58			
Witnessed a seizure			0.695		
Yes	16	237			
No	2	40			
Know someone with epilepsy			0.593		
Yes	15	216			
No	3	61			

Source of information					
Family member/parent	4	56	0.838		
Books	0	20	0.238		
Teacher	2	9	0.088		
Internet	1	23	0.679		
Media	5	64	0.650		
Attitude			0.063		
Unfavorable	45	0			
Favorable	232	18			
Knowledge			0.161		
Poor	90	3			
Good	187	15			

8. Discussion

In Ethiopia, few studies suggest that epilepsy is a major problem within the country [2, 5]. This study tried to assess the KAP towards epilepsy among preparatory students of Medhaniealem Preparatory school, in Gulele subcity, Addis Ababa. According to the results of this study, 68.5 %, 84.7 %, and 93.9 % of respondents had good knowledge, favorable attitude, and safe practice towards epilepsy, respectively which is higher than the results reported in the study done in Sululta woreda, Oromia which showed that 59.8%, 35.6%, and 33.5% of the respondents had good knowledge, favorable attitude and safe practice[5].

On the whole among those surveyed 80 % of the participants had heard or read about epilepsy which is less than that reported in the study done among high school students in Central Nepal (94.2%) [3], secondary school students in Cameroon, Batibo health district (95%) [6], students in South East Nigeria (87.6%) [4] and also less than the study done in Mekelle city which reported 85.7% and 19.23%, of those who have heard and read about epilepsy respectively [2].

Moreover, more students had witnessed a seizure (85.8 %) and had known someone with epilepsy (78.3 %) in this study than students in Cameroon (76.4%, 73.3%) [6], preparatory students in the study done in Mekelle city (57.14%, 67.03%) [2], South East Nigeria (59.4%, 32.9%) [4] and respondents in Central Nepal who had known someone with epilepsy (19.2%) [3].

Up to 61.7% of students considered epilepsy to be a type of mental illness which is significantly higher than the findings among the participants in Mekelle city (28.6%) [2], Cameroon (38%) [6], South East Nigeria (51.9%) [4] and Sululta Woreda, Oromia, Ethiopia (51.6%) [5].

In this study, 22% of the students incriminated brain tumors (22%), trauma (31.5%) and birth defects (11.2%) as causes for epilepsy. The understanding of epilepsy as a brain disease is higher than among similar participants in Mekelle (55.8%) [2] and higher than previous study in Cameroon (18.5%) [6]. The proportion of students who thought that epilepsy is a hereditary disease (18.6%) was lower than among similar respondents in Mekelle city (23.6%) and secondary students in Cameroon (25.3%).

Furthermore, evil spirit (32.5%), punishment from God (10.8%) and witchcraft (20.3%) were among causes of epilepsy cited by respondents. The prevalence of this belief was lower compared to the study in Mekelle city, evil spirit (33.24%), punishment for wrong doing (17.6%) and witchcraft (9.6%) and higher than the study in Cameroon; punishment for wrong doing (1.1%) and witchcraft (3.3%)[2, 7].

Results indicated that though most of the students were aware of epilepsy, their knowledge of the causes of epilepsy was vague. This shows that traditional beliefs and misconception about causes of epilepsy are still deeply rooted in these students and hence need to be addressed in both the students and society through focused education [2].

Concerning attitudes towards epilepsy; more objected to marriage (38.6%) than to association (18%) with PWE similar to the study conducted in Mekelle city (44.8%, 16%) and South east Nigeria (35.1%, 64.9%) [2, 4]. 83.1% of the respondents thought that PWE could be employed in jobs like other people which was more favorable as compared to other works done among students in Cameroon (70.6%) [6] and Mekelle (67%) [2].

According to this study, even though 50.8% of the students would move them from harm and 59% would take them to a health facility, a large portion of the students would also resort to unnecessary and ineffective measures such as; 64.7% would splash them with water, 45.1% would provide match stick smoke, 7.8 % would hold or tie them down and 6.4% would put something in their mouth which is better than findings in a study done in Mekelle city, Ethiopia, 59% would move them to a safe place while 81.9% would prove matchstick smoke, 22.% of the would put something in to their mouth and 14% would hold them down. [2] While study done in Sululta woreda, Oromia, Ethiopia, showed that 60% of the respondents would take the person to the hospital but 23% would put shoe or onion to the nose and 15% would splash them with water. [5] In a study done in Central Nepal 81.6% would take the person to the hospital, while 25.5% would splash them with water. [3]

Most of the students would recommend Holy water (64.4%) or a physician (56.3%) for the treatment of epilepsy which is comparable to studies in Mekelle city, Ethiopia where 70.33% of participants would recommend Holy water and 64.01% of them medical doctor as sources of treatment for epilepsy [2] and Cameroon where 67.3% of the students recommended Gods help and 64.4% of them recommended a physician. [6]

Regarding associated factors, in this study educational status and knowing someone with epilepsy were found to have significant association with knowledge about epilepsy. Contrary to other studies 11th graders were more knowledgeable about epilepsy than 12th graders. And as in a study done in Sululta woreda, Oromia, knowing someone with epilepsy was positively associated with the level of knowledge regarding epilepsy. [5] In contrast a study done in Central Nepal which showed that someone who did not know someone with epilepsy has slightly better mean knowledge, beliefs and practice and that older students had poorer knowledge than their younger colleagues although they all had a similar level of education. [3]

Concerning attitude, in this study, knowledge and knowing someone with epilepsy were found to have positive association with favorable attitude towards epilepsy similar to the study in Sululta woreda, Oromia which found that having heard about epilepsy, and knowing someone with epilepsy had positive association with attitude among the respondents.

As to practice, having obtained information about epilepsy from medical personnel and friends had positive association with safe practice while the study done in Sululta woreda, Oromia, reported that having prior heard information had positive association with practice.

9. Conclusion and Recommendations

9.1 Conclusion

In this study the findings indicated that the students of Medhanialem Preparatory school were familiar with epilepsy, most of them had favorable attitude and safe practice related to epilepsy but had vague knowledge about epilepsy and numerous misunderstandings regarding management of seizures. There were still a significant percentage of students who attributed cause of epilepsy to witchcraft and evil spirits. And although a majority of the students said they would move the person having a seizure from harm and take the person to a health facility a large percentage of them recommended ineffective and unnecessary practices which seem to spring from a lack of clear understanding of the nature of epilepsy.

9.2 Recommendation

- If there could be efforts made to increase awareness and provide reliable information about epilepsy to the society to dispel the still prevalent myths surrounding epilepsy
- For a successful epilepsy education program, local cultural beliefs have to be considered seriously and educated secondary school students may constitute a good channel for general community education.
- If there could be awareness programs on appropriate first aid practices to teach students and the general public
- If there could be further studies done involving more schools in Gulele subcity
- If there could be qualitative studies to explore the local cultural beliefs and myths about epilepsy

10. Strengths and limitations of the study

10.1 Strength

- The study strives to bring to attention a major problem in our country that is not given much coverage

10.2 Limitation

- The study was conducted in a single, governmental school in Gulele subcity and is therefore limited in its conclusion
- Lack of budget and man power that made it impossible to include more schools in the study

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Annex: Questionnaire

1. Demographics

1. Age
2. Gender
 - ☐ Male
 - ☐ Female
3. Grade
 - ☐ 11
 - ☐ 12
4. Marital status
 - ☐ Married
 - ☐ Unmarried
5. Religion
 - ☐ Orthodox Christian
 - ☐ Muslim
 - ☐ Protestant Christian
 - ☐ Others_____

2. Knowledge about Epilepsy

6. Have you ever heard or read about epilepsy?
 - ☐ Yes
 - ☐ No
7. What was your source of information? (more than one answer possible)
 - ☐ Electronic media
 - ☐ Parents/family members
 - ☐ Medical staff
 - ☐ Friends
 - ☐ Books
 - ☐ Teachers
 - ☐ Internet
 - ☐ Do not remember
8. Have you ever seen anyone having an epileptic seizure? Yes No
9. Have you ever had more than one seizure after the age of 5 years? Yes No
10. Do you think epilepsy is contagious? Yes No
11. If yes how is it transmitted? (more than one answer possible)
 - ☐ Blood
 - ☐ Saliva

- ☐ Physical contact
- ☐ Sexual intercourse
- 12. Do you think epilepsy is inheritable? Yes No
- 13. What do you think causes epilepsy? (more than one answer possible)
 - ☐ Trauma
 - ☐ Inherited diseases
 - ☐ Insanity or other mental illness
 - ☐ Brain tumors
 - ☐ Punishment from God
 - ☐ Stroke
 - ☐ Evil spirits
 - ☐ Birth defect
 - ☐ Witchcraft
 - ☐ Don't know
- 14. What do you think an epileptic attack looks like? (more than one answer possible)
 - ☐ Convulsion or shaking
 - ☐ Loss of consciousness
 - ☐ An episode of behavioral change
 - ☐ A period of memory disturbance
- 15. Do you think epilepsy has a cure? Yes No
- 16. Do you know or have you ever known someone with epilepsy? Yes No

3. Attitude towards PWE

- 17. Would you be friends with someone who sometimes had seizures? Yes No
- 18. Would you marry a person who sometimes had seizures? Yes No
- 19. Do you think people with epilepsy should be employed in jobs like others? Yes No
- 20. Do you think society should discriminate against persons with epilepsy? Yes No
- 21. Do you think people with epilepsy should have children? Yes No
- 22. Do you think there are jobs people with epilepsy cannot do? Yes No
- 23. Do you think epilepsy is a form of insanity? Yes No
- 24. Would you object to your child playing with someone with epilepsy? ☐ Yes ☐ No

4. Practice towards PWE

- 25. What would you do if you happen to see a person getting an epileptic attack?
 - ☐ Take him/her to hospital right away
 - ☐ Sprinkle water over his/her face
 - ☐ Light a match and hold the smoke under his/her nose
 - ☐ Move him/her away from harm

- ☐ Put something into his/her mouth
- ☐ Hold or tie them down
- ☐ Do nothing
- ☐ Run away
- ☐ Other_____

26. What source of treatment would you recommend for a PWE?

- ☐ Traditional healer
- ☐ Medical doctor
- ☐ Holy Water
- ☐ Prayers
- ☐ Witch doctor

Assurance of Investigator

I the undersigned student agree to accept all responsibilities for the scientific and ethical conduct of the research project. I will provide timely progress report to my advisors and seek the necessary advice and approval from my advisors in the course of the research. I will also communicate timely to my advisors and all stakeholders involved in the study.

Name of the student: _____

Signature: _____

Date: _____

Approval of Advisors

Name of PHD Advisor: _____

Signature: _____

Date: _____

Name of Clinical Advisor _____

Name of Clinical Advisor _____

Signature: _____

Date: _____