



Knowledge and attitude of the community towards epilepsy in Northwest Ethiopia: A huge gap on knowledge and attitude of the community



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ARTICLE INFO

Article history:

Received 21 October 2020

Revised 5 December 2020

Accepted 12 December 2020

Available online 30 December 2020

Keywords:

Epilepsy
Knowledge
Attitude
Training

ABSTRACT

Background: Misconception about epilepsy in Ethiopia is higher which in turn affects overall quality of life of the individuals. This research was aimed to assess knowledge and attitude of the community towards epilepsy in Northwest Ethiopia.

Methods: A community-based cross-sectional study was conducted. Data was entered by Epi data version 4.2 and analyzed by SPSS version 24. Descriptive and analytical statistical procedures, with 95% confidence interval were employed and significance level was determined at p-value < 0.05.

Result: A total of 782 respondents were participated with the response rate of 96.1%. About 66.2% of respondents had poor knowledge and 67.0% had unfavorable attitude, towards epilepsy.

In multivariate logistic regression, younger age, rural resident, not knew someone with epilepsy, did not have witness of seizure episode, and did not take prior training were associated with poor knowledge. Male sex, rural resident, did not know someone with epilepsy, did not have witness of seizure episode, did not take prior training, and had poor knowledge were associated with unfavorable attitude towards epilepsy.

Conclusion: Majority of participants had poor knowledge and unfavorable attitude. Public education about epilepsy is recommended to modify misconceptions and to promote positive attitudes.

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1. Introduction

Epilepsy is a neurological condition characterized by two or more seizure episodes. A seizure is a brief disturbance of the cerebral function due to abnormal paroxysms in the brain, which results in a sudden excessive disorderly discharge of the cerebral neurons [1,2].

WHO report revealed that epilepsy accounts for 1% of the global diseases burden [3] and affects about 100 million people globally at some time in their lives [4]. Majority of them lives in low- and

middle- income countries [5], probably because the incidence of risk factors is higher [6].

A study done in 5 African countries (Kenya, Tanzania, Uganda, Ghana, South Africa) showed prevalence of epilepsy ranging between 7 and 15 per 1000 people [7]. A study conducted in Pakistan on school teachers' knowledge, attitude and practices related to epilepsy showed that there is lack of knowledge, unfavorable attitude and unsafe practice towards epilepsy [8]. Similar study done amongst health workers in Southern Nigeria revealed, most of the participants believed that epilepsy was caused by evil spirits, witches and should not be treated in the hospital [9]. Even there is a gap on knowledge, attitude and practice towards epilepsy in a study carried out among medical students in Southern Nigeria [10].

Even if the psychosocial and economic impact of epilepsy is considered in high income countries but the treatment gap in developing countries is greater ranging from 60 to 98% [4]. More

Abbreviations: AOR, Adjusted Odd Ratio; KA, Knowledge and Attitude; PWE, People with epilepsy; SPSS, Statistical Package for Social Sciences; U.S, United States; WHO, World Health Organizations.

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than 85 % of PWE in Ethiopia do not receive epilepsy treatment. Of this, 90% of the untreated were unaware of the existence of treatment for epilepsy [2].

The impact of epilepsy is greater, not only because of its health implications but also for its social, cultural, psychological and economic effects in low income countries [11,12]. It affects all ages, races, social classes, and nations, and it has been misunderstood, feared, and stigmatized for longer periods. Epilepsy also results in physical, intellectual, psychological, and social limitations for the affected individuals [13] and can cause disability and death due to burns, drowning, and even depression induced suicide in severe cases [14]. Though epilepsy is one of the most common chronic diseases, it is usually associated with public erroneous beliefs [15]. Patients with epilepsy suffer from the burden of the public stigmas and discrimination that mostly caused by inadequate public knowledge and negative attitude about epilepsy along with misconceptions [16–18].

Factors that affect KAP of the community towards people with epilepsy are socio demographic factors such as residence, educational status occupational status and factors related to familiarity with epilepsy including had heard about epilepsy knew someone with epilepsy, had witnessed a seizure, had a family member with epilepsy and helped seizing person.

In order to respond to the burden of epilepsy, we need accurate data on KA and its associated risk factors of the community to facilitate help seeking behavior. Even though the KA of the community is poor towards epilepsy, as per our knowledge there is no data which showed the KA of the community towards people with epilepsy.

Therefore this study was intended to assess the KA and its associated factors among residents of South Gondar Zone, Ethiopia, 2020.

2. Materials and methods

2.1. Study settings and period

Community based cross sectional study was conducted in South Gondar from May 2019 to June 2020.

Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), this Zone has 468, 238 households with a total population of 2,051,738, of whom 1,041,061 are men and 1,010,677 women. Debre Tabor town is the city of South Gondar Zone which is located 666 km, north of the capital city Addis Ababa. This zone has 15 woredas (districts) and 406 kebeles. There are 8 hospitals and 97 health centers serving the community.

2.2. Study participants and sampling

We used multistage sampling technique to select a total of 782 participants. The authors took 4 woredas by simple random technique, and then proportional numbers of kebeles were selected in each Woreda (district). The source population was all households in the study area. All households found in the selected kebeles considered as study population. Each individual in the selected household in which the actual data collected was considered as the study unit. All individuals who were living permanently (at least six months), and age 18 years and above were included in the study. Those individuals who were epileptic and seriously ill at the time of the data collection were excluded.

2.3. Sample size determination

We determined the sample size by using the single population proportion formula by assuming 5% margin of error, 95% confi-

dence level, and 10% non response rate and magnitude of poor knowledge (40.2%) and unfavorable attitude (64.4%) was taken from the research conducted in Oromia regional state, asululta Woreda. Accordingly, a representative sample was calculated for both poor knowledge and unfavorable attitude giving the 814 and 778 respectively. Finally, we took the larger sample size of 814.

2.4. Variables of the study

The dependent variables were knowledge related to epilepsy (poor/good) and attitude (favorable/unfavorable). The independent variables were Sociodemographic variables such as (age, sex, residence, marital status educational status, occupational status,) familiarities about epilepsy (had heard about epilepsy, knew someone with epilepsy, had witnessed a seizure, had a family member with epilepsy helped seizing person), and whether or not the participants took a training related to epilepsy.

2.4.1. Knowledge

“Good knowledge” was defined as when respondents scored $\geq 50\%$ when answering questions related to epilepsy knowledge and “poor knowledge” is defined as when respondents scored, $< 50\%$ [19].

2.4.2. Attitude

The attitude of participants was defined as “favorable” for a score $\geq 50\%$ and as “unfavorable” for a score, $< 50\%$ [20].

2.5. Data collection tools and procedures

Data was collected through interviews by using previously adapted standard questionnaire which had 4 sub sections. The first part was a socio-demographic questionnaire which was used to assess the patients’ background information. The second part was familiarities about epilepsy which was assessed by yes/no answers of respondents. Thirdly, knowledge of the community about epilepsy questionnaire was assessed with yes/no answers of respondents, which had sensitivity and specificity of 100% and 72%, respectively and enter data reliability is 0.87 (Cranbach α), and the fourth part was about attitude of the community which was measured using by a six Likert scale questionnaire ranging from 20 to 120 with internal consistency value (Cronbach’s α 0.79) (1 = I disagree very much, 2 = I disagree pretty much, 3 = I disagree a little, 4 = I agree a little, 5 = I agree pretty much, and 6 = I agree very much, that a items for which a “disagree” response (scored negatively have been reversed) indicates a positive attitude [20]. A questionnaire was translated by a bilingual translator into Amharic. To check its consistency with its English version, it was retranslated to the original version.

Four HEW data collectors and two BSc nurse supervisors were selected for each selected Woreda and training was given for data collectors and supervisors by the principal investigator for one day, about the data collection methods, tools, how to handle ethical issues. A pretest was conducted on 41(5%) of the sample size in the other Woreda (not selected as study population) which was not be included in the analysis part of the study before the actual data collection to identify potential problems in data collection tools. Regular supervision by the supervisors and principal investigator was made to ensure that all necessary data was properly collected. Each day during data collection, completed questionnaire was checked for completeness and consistency, and then entered timely from a paper into the computer.

2.6. Data processing and analysis

Data was coded, entered into Epi-data version 4.2 then exported to SPSS version 24. Association between dependent and independent variables was assessed and its strength was presented using AOR and 95% confidence intervals. Variables with a p-value < 0.05 in bivariate analysis was taken to multivariate analysis and a p-value of less than 0.05 was declared to be associated with KA.

2.7. Ethical consideration

Ethical clearance was obtained from ethical review committee of Debre Tabor University, in order to obtain a permission letter from South Gondar zone health department. Confidentiality of respondents was maintained by using anonymous data collection tool, and the questionnaire was provided with written consent. The selected personnel were informed that they can quit at any time, even if they have agreed to participate at first, and that their decision was not causing them any trouble.

2.8. Participants' involvement

In the current study, participants were people who were living in South Gondar Zone Amhara, Ethiopia.

Participants were not involved in the study design and recruitment. The result of this study has been disseminated to the Amhara regional health bureau and South Gondar Zone health department.

3. Result

3.1. Sociodemographic characteristics

From the total of 814 invited individuals 782 respondents were participated in this study with the response rate of 96.1%. The mean age of the respondents was 29.8 years and the range was 18–59 years. More than half of the respondents were females 402 (51.4%). Most of the participants were married 386(49.4%), orthodox followers 729(93.2%), illiterate 315(40.3%) and Amhara by ethnicity 750 (95.9%). Regarding their occupation, about 1/3th of them were jobless 264(33.8%) (Table1).

3.2. Familiarity and prior information related to epilepsy

Regarding familiarity related to epilepsy about 478(61.1%) respondents knew someone with epilepsy, 397(50.8%) witnessed someone on seizure episode, and majority of the participants had not take training regarding epilepsy (Table2).

3.3. Knowledge and attitude related to epilepsy

According to this study, 66.2% (95%CI: 62.7, 69.4) and 67.0% (95 % CI: 63.7, 70.1) of respondents had poor knowledge, and unfavorable attitude, related to epilepsy, respectively.

3.4. Factors related to knowledge and attitude towards epilepsy

To determine the association of independent variables with outcome variables, bivariate and multivariate binary logistic regression analysis were carried out.

On the bivariate logistic regression analysis younger age, rural resident, not knew someone with epilepsy, did not have witness of seizure episode, did not take prior training related to epilepsy

Table 1

Sociodemographic characteristics of the participants in the epilepsy study from South Gondar community Amhara Ethiopia 2019.

Characteristics	Category	Frequency	Percent
Age	18–35	531	67.9
	36–45	121	15.5
	≥46	130	16.6
Sex	Male	380	48.6
	Female	402	51.4
Residence	Rural	403	51.5
	Urban	379	48.5
Ethnicity	Amhara	750	95.9
	Oromo	22	2.8
	Tigray	10	1.3
Marital status	Married	386	49.4
	Single	203	25.9
	Divorced	86	10.9
	Widowed	45	5.8
	Separated	62	8
Religious status	Orthodox	729	93.2
	Catholic	10	1.3
	Protestant	43	5.5
Educational status	Illiterate	315	40.3
	Primary school	102	13.0
	Secondary school	139	17.8
	College and above	226	28.9
Occupational status	Jobless	264	33.8
	Had job	518	66.2

Table 2

Familiarity and information about epilepsy of South Gondar community Amhara Ethiopia 2019.

Characteristics	Category	Frequency	Percent
Knew someone with epilepsy	Yes	478	61.1
	No	38.9	304
Witnessing someone with seizure episode	Yes	397	50.8
	No	385	49.2
Had family member with epilepsy	Yes	118	15.1
	No	664	84.9
Had ever helped seizing person	Yes	317	40.5
	No	465	59.5
Had taken training about epilepsy	Yes	92	11.8
	No	690	88.2

were found to be significant with poor knowledge at a P value < 0.05.

Likewise, factors including male sex, rural resident, did not know someone with epilepsy, did not have witness of seizure episode, did not help people on seizure episode, did not take prior training related to epilepsy and had poor knowledge regarding epilepsy were associated with unfavorable attitude at a P-value < 0.05.

These factors were entered into multivariable binary logistic regression for further analysis in order to control confounding effects.

In multivariate analysis younger age, rural resident, not knew someone with epilepsy, did not have witness of seizure episode, did not take prior training related to epilepsy were found to be significant with poor knowledge at a P value < 0.05.

Multivariate analysis showed that age 18–35 (AOR = 1.74; 95CI: 1.10, 2.74) and 36–45 (AOR = 0.48; 95CI:0.28, 0.83) were associated with poor knowledge and good knowledge respectively. There was a significant association between residence and poor knowledge. Those who lived in rural area (AOR = 1.72, 95% CI; 1.22, 2.45) had poor knowledge about epilepsy than those who lived in urban area. Furthermore, respondents who did not knew someone with epilepsy (AOR = 2.26, 95CI; 1.53, 3.34) were 2.26 times more likely to had poor knowledge as compared with those participates who knew someone with epilepsy. Respondents who did not

witness persons with seizure episode had poor knowledge (AOR = 2.23, 95CI; 1.56, 3.19) as compared with those who witnessed seizure episode. Additionally, whether or not took training was associated with knowledge related to epilepsy. Participants who did not take training regarding epilepsy had poor knowledge (AOR = 1.79, 95CI; 1.11, 2.90) as compared with the respondents who took a training about epilepsy (Table 3).

According to the result of this study with respect to the attitude of the community toward epilepsy, male sex, rural resident, did not know someone with epilepsy, did not have witness of seizure episode, did not take prior training related to epilepsy and had poor knowledge regarding epilepsy were associated with unfavorable attitude at a P- value < 0.05.

Being rural resident had unfavorable attitude (AOR = 1.43, 95CI; 1.01, 2.00) as compared with urban dwellers and being male was associated with unfavorable attitude (AOR = 1.69, 95CI; 1.19, 2.42) as compared with female respondents. Similarly, respondents who did not know someone with epilepsy had unfavorable attitude toward epilepsy (AOR = 2.52, 95 CI; 1.67, 3.81) than those who knew someone who had epilepsy. The odds of having unfavorable attitude among respondents who did not witness the seizure episode were 3.23 times higher as compared with those participants who witnessed the seizure episode (AOR = 3.23, 95 CI; 2.22, 4.71). The result of this study also confirmed that training had an association with attitude of the community towards epilepsy. Individuals who did not take training regarding epilepsy had more unfavorable attitude (AOR = 1.74, 95CI; 1.06, 2.84) as compared with those individuals who took training related to epilepsy. The likelihood of having unfavorable attitude was 1.69 times higher

among respondents who had poor knowledge as compared with those who had good knowledge related to epilepsy (Table 4).

4. Discussion

Epilepsy is a common but widely misunderstood illness specifically in low and middle countries including Ethiopia. Consequently, epileptics suffer from considerable stigmatization in society. This study was intended to assess the knowledge, attitude and associated factors towards epilepsy among South Gondar Zone community. According to the result of this study, 66.2% of respondents had poor knowledge. This finding was in line with US community study 66.7% [21]. In the contrary the finding of this study showed a better improvement in the knowledge of the community as compared with the previous studies conducted in northern Nigerian urban community 74% [11], Northwestern Nigeria 70.1% [22], systematic review conducted in 36 countries(76%) [23]. On the other hand, the result of this study showed, the knowledge of the community related to epilepsy was lower than the studies conducted in Al-Kharj governorate Saudi Arabia 5.2% [24], Vietnam (33%) [25], Karachi Pakistan 22.5% [26], Italy 6.6% [27]. South East Nigeria (12.4%) [28], town of Brazil 20% [29], Jordan 50% [20], North West Region- Cameroon 5.3% [30], WHO study in sub-urban Senegal, (12.5%) [31], Khartoum state 43% [32], Oromia Regional State, Sululta Woreda 40.2% [19], Jimma university specialized hospital 40% [33] Debre Berhan study 43.6% [34]. The discrepancy might be because the variation in sample size and the methodological differences.

Table 3
Factors associated with poor knowledge related to epilepsy among residents of South Gondar Zone Amhara Ethiopia 2019.

Variables	Category	Level of knowledge		COR(95%CI)	AOR95%CI)
		Poor	Good		
Age	18–35	383	148	*1.52(1.01,2.27)	*1.74(1.10,2.74)
	36–45	53	68	*0.46(0.28,0.76)	*0.48(0.28,0.83)
	≥46	82	48	1	1
Resident	Rural	286	117	*1.55(1.15,2.09)	*1.72(1.22,2.45)
	Urban	232	147	1	1
Knew someone with epilepsy	Yes	266	212	1	1
	No	252	52	*3.86(2.73,5.48)	*2.26(1.53,3.34)
Witnessing seizure episode	Yes	212	185	1	1
	No	306	79	*3.38(2.46,4.62)	*2.23(1.56,3.19)
Taking training	Yes	44	48	1	1
	No	474	216	*2.39(1.54,3.72)	*1.79(1.11,2.90)

Key: - *P < 0.05

Table 4
Factors associated with attitude related to epilepsy among residents of South Gondar Zone Amhara Ethiopia 2019.

Variables	Category	Level of attitude		COR(95%CI)	AOR95%CI)
		Unfavorable	Favorable		
Sex	Male	271	109	*1.46(1.08,1.98)	*1.69(1.19, 2.42)
	Female	253	149	1	1
Resident	Rural	297	106	*1.88(1.39,2.54)	*1.43(1.01,2.00)
	Urban	227	152	1	1
Knew someone with epilepsy	Yes	267	211	1	1
	No	257	47	*4.32(3.02,6.19)	*2.52(1.67,3.81)
Witnessing seizure episode	Yes	199	198	1	1
	No	325	60	*5.39(3.84,7.56)	*3.23(2.22,4.71)
Help people on seizure episode	Yes	193	124	1	1
	No	331	134	*1.59(1.17,2.15)	1.21(0.84,1.74)
Taking training	Yes	41	51	1	1
	No	483	207	*2.90(1.87,4.52)	*1.74(1.06,2.84)
Knowledge	Good	136	128	1	1
	Poor	388	130	2.81(2.06,3.84)	1.69(1.19,2.39)

Key: - *P < 0.05

Regarding attitude, the current study shows that 67.0% of the community had unfavorable attitude towards epilepsy. The finding was in line with the other studies carried out in WHO study in suburban Senegal 68% [31], Vietnam 67% [25] in Oromia Regional State, Sululta Woreda 64.4% [19].

On the other hand, attitudes were more favorable compared to that of the participants of a study in a meta analysis and systematic review conducted in 36 countries 69% [23], Egypt 92% [35]

Whereas, the attitude of the community were unfavorable compared with the other studies carried out in Northwestern Nigeria 18% [22], Australia 10% [36], Al-Kharj Governorate Saudi Arabia 27.7% [24], Brazil 11% [29], Cameron studies 29.4%, 22.8% [30,37], India 22.3% [38], Debre Berhan study 41.3% [34], Trinidad and Tobago (7%) [39]. This could be due to cultural attitudes difference, and methodological differences.

As regard to determinant factors, this study revealed that younger age, rural resident, not knew someone with epilepsy, did not have witness of seizure episode, did not take prior training related to epilepsy were found to be significant with poor knowledge. Younger individuals were less knowledgeable regarding epilepsy as compared with older participants. This was supported by the study conducted in New Zealand [40]. Similarly, being rural dwellers, and respondents who did not know someone with epilepsy were associated with poor knowledge about epilepsy which was in line with the research carried out in Oromia Regional State, Sululta Woreda [19]. This could be living in the rural area causes lack of information regarding epilepsy via mass media. This enables these communities to have poor knowledge. Likewise, did not have witness of seizure episode, and did not take prior training were significantly associated with poor knowledge which was also observed in US population [21], Saudi Arabia [24], and Brazil studies [29]. Not witnessing seizure episode as a factor for poor knowledge has been also observed in Debre Berhan study [34]. This might be due to the fact that witnessing the seizure episode may invite individuals to ask/read about epilepsy and this allows having good knowledge and in fact it is expected to have a good knowledge while a person is taking training.

Pertaining to factors which affect the attitude of the community male sex, rural resident, did not know someone with epilepsy, did not have witness of seizure episode, did not take prior training related to epilepsy and had poor knowledge regarding epilepsy were associated with unfavorable attitude.

Male respondents had unfavorable attitude as compared with female participants, which was support by studies carried out in Saudi Arabia [24], and Australia [36]. Rural dwellers had unfavorable attitude as compared with urban residents. This was in line with previous research done in Sululta Woreda Ethiopia study [19]. Individuals who did not know someone with epilepsy had unfavorable attitude as compared with those individuals who knew someone with epilepsy. This result is also seen in previous researches conducted in Sululta Woreda Ethiopia [19], Saudi Arabia [24], and Enugu, South East Nigeria [28]. Likewise, those respondents who did not have witness of seizure episode had unfavorable attitude as compared with their counterparts which was also observed Austrian [36] and Debre Berhan studies [34]. Whether or not taking training had an impact on the attitude of the community. In this study those participants who did not take training regarding epilepsy had unfavorable attitude towards epilepsy. This finding was supported by Saudi Arabian [24], and Brazil studies [29]. This might be because of training is the main strategy to change people's attitudes towards persons with epilepsy. Additionally, poor knowledge was significantly associated with unfavorable attitude in this study. This is also seen in the Austrian study [36]. The rational for this might be lack of knowledge about the causes of epilepsy has been associated with unfavorable attitudes, poor awareness, and stigma.

5. Conclusion

The finding of this study showed that majority of participants had poor knowledge and unfavorable attitude towards epilepsy. Younger age, rural resident, not knew someone with epilepsy, did not have witness of seizure episode, did not take prior training related to epilepsy were found to be significant with poor knowledge. Regarding the attitude of the community, male sex, rural resident, did not know someone with epilepsy, did not have witness of seizure episode, did not take prior training related to epilepsy and had poor knowledge regarding epilepsy were associated with unfavorable attitude towards epilepsy.

The study recommends public education about epilepsy through structured programs, either within the educational system or the mass media, is highly desirable to modify any misconceptions about epilepsy, as well as to promote positive attitudes toward people with epilepsy.

It is also better to provide training regarding epilepsy for the communities key informants so as to address the communities' awareness especially for those rural residents.

6. Declarations

6.1. Data Availability

No additional data is available for this study; all the data are included in the manuscript

6.2. Funding statement

The fund for this research work was obtained from Debre Tabor University.

Acknowledgement

The authors acknowledge Debre Tabor University for reviewing and approval of ethical issues. We extend our gratitude to data collectors, supervisors and study participants for their time and effort

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