Depressive Symptoms among Patients with Epilepsy Attending Adare General Hospital, Hawassa Ethiopia: Cross-sectional Study

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Abstract

Background: Depression is highly prevalent in epileptic patients. It was the most frequent co-morbid psychiatric disorder in patients with epilepsy. Its prevalence had estimated to range between 20-50% of patients. There are limited studies which showed the magnitude of depression among epileptic patient in sub-Saharan Africa. The aim of the study was to assess the prevalence of depressive symptom and associated factors among patients with epilepsy attending Adare General Hospital, Hawassa, Ethiopia, 2017.

Methods: Institution based cross sectional study design was conducted among 114 patients with epilepsy who were selected by using convenience sampling technique. Data was collected through face to face interviews by trained data collectors using patient health questionnaire item nine (PHQ-9). Data was entered and analysed by using SPSS Version 22. Level of significance was determined by using p<0.05.

Results: A total of 114 participants were recruited for study. The mean age of respondents was 27.60± (SD=7.91) years. The prevalence of unrecognized depressive symptom was 34.2%. Age [18-24 year (AOR=6.89, 95% CI (1.29, 12.78)], Poor social support [AOR=7.5, 95% CI (1.89, 9.79)], Sex (Female (AOR=7.54, 95% CI (1.34, 12.42) and being unemployed [AOR=3.09, 95% CI (1.19, 10.51) have statistically significant association with unrecognized depressive symptom.

Conclusion: Overall the prevalence of depression was found to be high (34.2%). Age, poor social support, being female, and unemployment were factors associated with depressive symptom. The current finding emphasized need for proper psychiatric evaluation for overall management of patient with epilepsy. Further study is recommended to identify associated factors of depressive symptoms.

Keywords: Unrecognized depressive symptom; Epileptic patients

Background

Depression is the most frequent psychiatric co-morbidity in people with epilepsy with life-time prevalence rates ranging from 30% to 35% [1]. In patients with medically intractable, or only partially controlled epilepsy, rates of depression range from 20% to 55%, while in patients with controlled epilepsy, rates range from 3% to 9% [2].

The incidence of depressive disorder in epilepsy ranges from 11% to approximately 62% [3]. It was estimated that the 12-month prevalence of depression was 7.4% [4], with a lifetime prevalence of up to 16.6% in adults over 18 years [5].

According to different world wide literature the magnitude of depression among adult epileptic people had a varied figure. Prevalence of depressive symptom accounted 20% in Thailand, 25% in India, 24% to 32% in Brazil, 38% in china 60% in Pakistan and 25.5% in Egypt [6]. In addition, one study conducted in Addis Ababa, Ethiopia, showed the prevalence of depressive symptom among epileptic patient 32.8% [7].

Co-morbid depression can have significant physical, social and financial consequence, including increased drug use, poor quality of life, social disability and mortality [3]. Recognition and treatment of depression was an important consideration in improving quality of life in epilepsy [8]. The risk factor for suicide among epileptic patient includes psychiatric co-morbidity of depression. Depression had also been found to be the most important factor associated with reduced quality of life in epileptic patient and cause severe diagnostic, therapeutic and social problem [2].

There are limited studies which showed the magnitude of depression among epileptic patient in sub-Saharan region. The aim of this study to identify the prevalence of depression in epileptic patient and its associated factor among epileptic patient attending in Adare Hospital, Hawassa, Ethiopia.

Methods

Study setting and design: Institution based cross-sectional study was conducted in April 2017. Hawassa city is found in the south of Ethiopia which is 275KM from the capital city of Ethiopia, Addis Ababa. Adare Hospital is established in Hawassa city in 1962 as a health centre; at the beginning the health centre provides health care service for 2695 people. In 2011 the then health centre upgraded to general hospital. According to 2016 data, psychiatry outpatient department gives service for 1188 epileptic patients annually. 114 patients were recruited for the study. Study participants were included using convenience sampling technique. A total of 114 patients with the diagnosis of epilepsy were included in the study.

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Inclusion and exclusion criteria

All adult Patients with epilepsy who attend in Adare general hospital with age ≥ 18 years were included in the sample and who were seriously ill and have problems of communication were excluded problem the sample.

Data collection instruments

Demographic variables were collected using semi-structured questionnaire. Social support related issue was assessed by Oslo social support scale. Oslo three items social support scale (OSS-3) provides a brief measure of social support and functioning and it is considered to be one of the best predictors of mental health. It covers different fields of social support by measuring the number of people the respondent feels close to, the interest and concern shown by others, and the ease of obtaining practical help from others. In order to score OSS-3, total scores are calculated by adding up the raw scores for each item. The sum of the raw scores has a range from 3-14 [9].

Depression was measured by using patient health questionnaire item nine (PHQ-9) which is a 9 item depression screening and diagnostic questionnaire for major depressive disorder based on DSM-IV criteria with sensitivity 86% and specificity 67%. ThePHQ-9 appears to be a reliable and valid instrument that may be used to diagnose MDD among Ethiopian adults [10].

Data processing and analyses

The Statistical Program for Social Science (SPSS version 22) was used for data analyses. Socio-demographic (age, sex, and marital status, areas of residence, religion, and education) and clinical factors was analysed and presented by using words, tables and charts.

Ethical consideration

Ethical clearance for this study was obtained from the Research and Ethics Review Committee of College of Medicine and Health Sciences, Hawassa University. Permission letter was obtained and submitted to Adare Hospital. Study participants were informed about their rights to interrupt the interview at any time and written informed consent was obtained from each study participants. Confidentiality was maintained at all levels of the study. Subjects who were found to have moderate to severe depressive symptoms, had poor social support were treated at clinic.

Results

Socio-economic and demographic characteristics

A total of 114 clients were participated in the study giving a response rate of 100%. The mean age of the clients was 27.60± (SD=7.91) years. There were 75 (65.8%) were female, 66 (57.9%) were married, 82(71.9%) were Protestant by religion, 45(39.5%) private employer, 65(57.0%) were Sidama by ethnicity, 47(41.2%) of the respondents were secondary school completed and 60 (52.6%) of clients have good social support (Table 1).

When we see the educational distribution of patient with epilepsy; among 114 epileptic patient 13(11.4%) of them were unable to write and read, 37 (32.5%) were primary school complete, 47 (41.2%) were secondary and preparatory school complete, and the rest 17(14.9%) were college/University complete (Figures 1-3).

Table 1: Socio-demographic characteristics of patient with epilepsy attending Adare Hospital, Hawassa, Ethiopia (n=114).

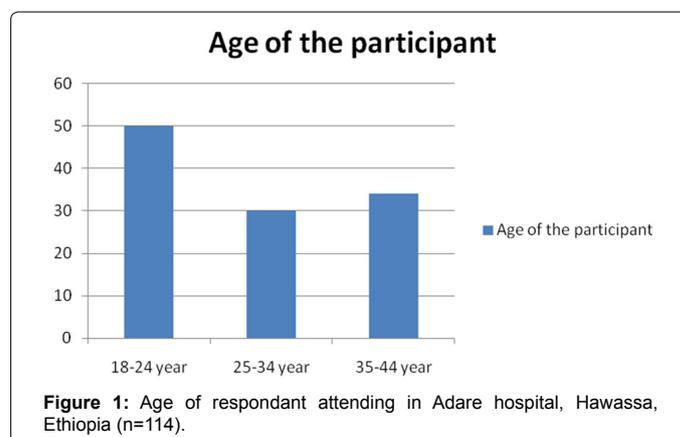| Variable		Frequency	Percentage
Sex	Male	39	34.2
	Female	75	65.8
Marital status	Single	48	42.1
	Married	66	57.9
Ethnic background	Sidama	65	57.0
	Wolaita	25	21.9
	Oromo	10	8.8
	Others	14	12.3
Occupation	Government employee	29	25.4
	Private employee	45	39.4
	Jobless	40	35.2
Monthly income	< 750 Ethiopian Birr	51	44.7
	750-1200 Ethiopian Birr	26	22.8
	>1200 Ethiopian Birr	37	32.5

Figure 1: Age of respondant attending in Adare hospital, Hawassa, Ethiopia (n=114).
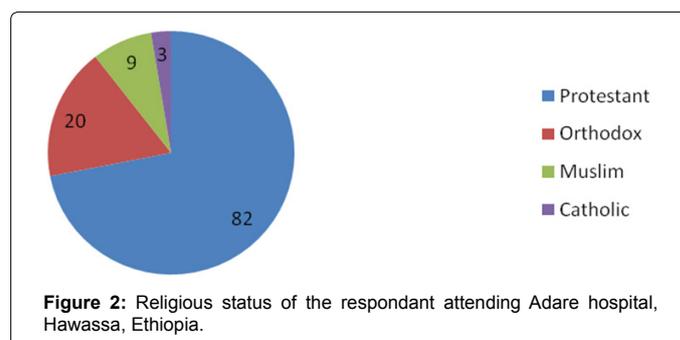

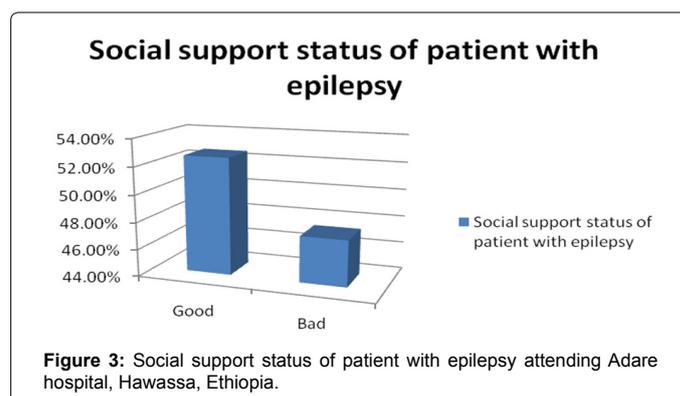**Figure 2:** Religious status of the respondant attending Adare hospital, Hawassa, Ethiopia.

Figure 3: Social support status of patient with epilepsy attending Adare hospital, Hawassa, Ethiopia.

Variables		Depressive Symptom		P-value	COR (95 % CI)	AOR (95% CI)
		Yes	No			
Sex	Male	31	8	0.02	1	1
	Female	44	31		2.73 (1.10, 6.73)	1.34 (1.10, 12.42)
Age	18-24	20	30	0.01	18.68 (2.27, 6.52)	6.89 (1.29, 12.78)
	25-34	26	4		1.11 (0.32,3.89)	1.48 (0.20, 11.05)
	35-44	29	5		1	1
Marital status	Unmarried	20	28	0.07	7.00 (2.94,16.62)	3.32 (0.61, 18.02)
	Married	55	11		1	1
Occupational status	Government	24	5	0.01	1	1
	Non-government	39	6		0.73 (0.20, 2.68)	0.16 (0.01, 1.90)
	Jobless	12	28		11.20 (3.45,36.34)	3.09 (1.19,10.51)
Monthly income in Ethiopian Birr	< 750 (under poverty)	19	32	0.2	7.73(0.15, 19.08)	4.27(0.22,81.09)
	750-1200 (Medium income)	22	4		2.06 (0.42, 10.10)	1.72(0.14,20.70
	>1200 (High income)	34	3		1	1
Social Support	Poor	22	32	0.001	11.01(4.22.28.67)	7.50(3.89, 9.79)
	Good	53	7		1	1

Table 2: Multivariate logistic analysis result of patient with epilepsy attending Adare hospital, Hawassa, SNNPR, Ethiopia (n=114).

The prevalence of unrecognized depressive symptom and its associated factors

According to PHQ-9, 39 (34.2%) study subjects were identified as having depressive symptom. According to the result from multivariate analysis; Age [18-24 year (AOR=6.89, 95% CI (1.29, 12.78)], Poor social support [AOR=7.5, 95% CI (1.89, 9.79)], Sex (Female (AOR=7.54, 95% CI (1.34, 12.42) and being unemployed [AOR=3.09, 95% CI (1.19, 10.51) were factors statistically Significant with depressive symptoms at p value <0.05 (Table 2).

Discussion

The prevalence of depression in patient with epilepsy in Adare hospital was 34.2%. This finding is consistent to the study carried out in USA [11], Egypt [12,13] and Ethiopia. On the other hand, the finding is higher than study conducted in Brazil, in India [14], Morocco [15], and in Ethiopia [16]. The current findings was lower than a study conducted in Poland [17], in India [14], in Pakistan [18], in Iran [19], in Gaza strip, in Morocco, in South east Nigeria [20] and in the North West Ethiopia's [21,22]. The difference might be due to the difference in data collection tool, socio-demographic characteristics and sample size.

Compared to female, being female was 7.5 more likely to experience depressive symptom. This finding is consistent with reports in Nigeria, and in Ethiopia. The reason might be, in women, the effect of estrogens on hippocampus synaptogenesis was parallel to those of antidepressants. Moreover, loss of estrogen appears to be a critical contributor to the etiology of depressive disorders. The increased incidence of depression observed in women with epilepsy might therefore reflect a hormonal deficiency state because epilepsy is frequently associated with defects in reproductive function.

Regarding age distribution, epileptic patient in age group of 18 – 24 years more likely develop depressive symptom. This finding was supported by the study conducted in Ethiopia and in Nepal. The possible reason might be the participant on this age group want to participate on different activity with their friends but the precaution due to disease condition might cause depressive symptoms.

Having poor social support was 7.5 times more likely develop depression when compared to those who had good social support.

We lack some literatures which support this finding. These might be linked to community perception of epilepsy, it is perceived as sin and as communicable disease; this might result psychological distress.

Being jobless was significantly associated with depressive symptom. We did not get literature reviews that support this finding. However, the reason might be because of their joblessness they will not feel good and it may relate to income and poor economic status.

Conclusion

The prevalence rate of depression was 32.4%. Age, sex, occupation and social support were the most important significant factors for depressive episodes. Epilepsy clinics should give more emphasis to those clients with depressive symptoms. Further research on determinants of depressive symptoms should be conducted to strengthen and broaden the current findings.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

BD conceived the study and was involved in the study design, reviewed the article, analysis, report writing and drafted the manuscript. AT, TM and MM were involved in the study design, analysis and drafted the manuscript. All authors read and approved the final manuscript.

Availability of Data and Materials

Because the sensitivity of the data, the data will not be shared publically but upon request we will avail the necessary data for concerned body.

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