Journal of Neurological Disorders

J Neurol Disord
Volume 11:1, 2023

Research Article

Open Access

Quality of Life and its Associated Factors among Epileptic Patients on Treatment Follow-up in North Shoa Administration, Amhara National State, Ethiopia

Esubalew Guday[1*], Getabalew Engdaye[2], Belachew Tekleyohannes[3], Nigus Alemnew[4], Akne Eshete[1] and Yihenew Sewale[1]

[1]*Department of Nursing, Debre Birhan Health Science College, Ethiopia*
[2]*Department of Medical laboratory, Debre Birhan Health Science College, Ethiopia*
[3]*Department of Environmental Health Science, Debre Birhan Health Science College, Ethiopia*
[4]*Department of Psychiatry, Debre Birhan Health Science College, Ethiopia*

Abstract

Background: Epilepsy is a common condition worldwide and has been observed to affect quality of life. Epilepsy patients have a lower quality of life than the general population as well as many other chronic disease patients. However, aside from focusing on symptom reduction, no attention is paid to the quality of life of those with epilepsy. This study aims to evaluate quality of life and associated characteristics among epilepsy patients who visited North Shoa zone hospitals in Ethiopia.

Methods: An institution-based cross-sectional study design was conducted from April-May 2021 at North Shoa zone hospitals. A systematic random sampling technique was used to get a total number of 472 samples. Data on quality of life was assessed through interviews using the World Health Organization Quality of Life-Brief (WHOQOL BREF) Version. The collected data were coded, entered into Epi Data 3.1, and analyzed by using SPSS version 25. Simple and multiple linear regression analysis models were fitted and the unstandardized β coefficient at 95% confidence interval was employed. The statistical significance was accepted at $p\text{-value} < 0.05$.

Results: From a total of 472 participants the response rate was 98%. The mean score of quality of life was 57.2 ± 12.3. Age (β=5, 95% CI: 2.301, 7.699), marital status (β=-6.914, 95% CI: -8.867, -4.961),seizure frequency (β=-.2.307, 95% CI: -4.795, .020), Anti-epileptic drug non-adherence (β=-.11.016, 95% CI: -13.642, -8.389), anxiety (β-4.062, 95% CI: -6.503, -1.621), poor social support (β=-6.220, 95% CI: -8.422, -4.017) and moderate social support (β=-5.58, 95% CI: -7.792, -3.368) were significantly associated with quality of life.

Conclusion: The mean quality of life of people living with epilepsy in this study was low. Age, marital status, seizure frequency, concomitant anxiety, antiepileptic drug non-adherence, number of anti-epileptic drugs/day, moderate and poor social support were all found to be predictors of quality of life in this study. As a suggestion, the patient treatment plan should include a quality of life assessment that addresses psychosocial concerns; professional counseling on how to cope with psychological, environmental, and social difficulties should be increased.

Keywords: Epilepsy • Quality of life• WHOQOL-BREF

Introduction

Quality of life can be defined as individuals' perceptions of their position in life in the context of the culture and value systems in which they live and, in relation to their goals, expectations, standards and concerns [1]. It is a comprehensive phrase that includes a complex interaction between one's physical and mental well-being, level of freedom, social connections, and personal ideals. It also includes how these factors relate to significant environmental factors. [2]. A person's physical health, physical, social, and psychological functioning, as well as their quality of life, would all be assessed in a perfect health evaluation. A wide range of potentially independent domains spanning all significant dimensions of quality of life are required in order to provide a measure of quality of life that is both valid and reliable [3].

International League against Epilepsy (ILAE) defines epilepsy as a disease of the brain defined by any of the following conditions:

- At least two unprovoked (or reflex) seizures occurring >24 hrs. Apart;
- One unprovoked (or reflex) seizure and a probability of further seizures similar to the general recurrence risk (at least 60%) after two unprovoked seizures, occurring over the next 10 years;
- Diagnosis of an epilepsy syndrome [4].

The disease significantly affects the patients' quality of life as well as social, cognitive, psychological, and physical aspects of their daily lives. Epilepsy has a negative impact on quality of life that is brought on by a number of things, including the usage of antiepileptic drugs. Duration of seizures on antiepileptic medications and frequency (AED) [5]. Epilepsy is a devastating disorder that affects patients' quality of life, regardless of use of antiepileptic drugs (AEDs) [6].

Epilepsy is the most common neurological disease that affects around 50 million people of all ages globally. All over the world, epileptic patients are the focus of human rights violations and discrimination. The stigma of epilepsy can discourage people from seeking health care and has a negative impact on quality of life and social enclosure [7].

Epilepsy accounts for over 13 million disability-adjusted life years (DALYs) and is accountable for more than 0.5% of the global burden of disease (GBD) [7]. Psychiatric and Physical comorbidities in people with epilepsy

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***Address for Correspondence:** *Esubalew Guday, Department of Nursing, Debre Birhan Health Science College, Ethiopia, Email: gudayesuye@gmail.com*

Received: 03-January-2023, Manuscript No. jnd-23-85284; **Editor assigned:** 05-January-2023, PreQC No. P-85284 (PQ); **Reviewed:** 19-January-2023; QC No. Q-85284; **Revised:** 24-January-2023; Manuscript No. R-85284 (R); **Published:** 31-January-2023, **DOI:** 10.4172/2329-6895.11.1.534

are linked with increased health care needs, poorer health outcomes, greater social exclusion and decreased quality of life. Anxiety (20%) and depression (23%), respectively, are the most common mental comorbidities [8].

The primary areas where quality of life is altered by epilepsy are education, employment, independence, and social isolation. The impact of epilepsy on quality of life can be severe with extensive and life-long consequences. The study at Gonder university hospital revealed that marital status did not significantly affects quality of life but other studies revealed that marital status significantly affects quality of life [9-13].

Numerous studies on the quality of life of epileptic patients have found that personal characteristics and clinical characteristics are the closest or direct predictors, whereas sociodemographic factors are the most remote.

As a result, the goal of this study was to evaluate quality of life and related characteristics among epilepsy patients. The findings will also provide policymakers with information they can use to scale up a public health program that would develop and implement initiatives to promote quality of life.

Methods

The study was conducted at North Shoa zone hospitals, Amhara regional state from 01/4/2021-30/05/2021. North Shoa zone is one of 11 Zones in the Ethiopian Amhara Region. The Zone is bordered on the south and the west by the Oromia Region, on the north by South Wollo, on the Northeast by the Oromia Zone, and on the east by the Afar Region. Based on the 2018 demographic and health data, the zone has a total population of 1,692,555. The zone has 10 public, two private hospitals, 99 health centers, 391 health post and 164 private clinics which provide different health services for the urban community and, people coming from different neighboring regions.

Sampling technique

12 hospitals in North Shoa zone were stratified based on the service they provide (comprehensive specialized, general, and primary hospitals). Simple random selection was applied for the strata that contain more than one hospital based on 30% coverage to secure representativeness. The required sample size was taken proportionally to the size of the selected hospitals. To get the individual sample units (participants) at the selected hospitals systematic random sampling was conducted by using the total number of epileptic individuals who have an appointment during the study period and number of samples required in each selected hospital. After getting the sampling fraction in the selected hospital a simple random method/lottery method was used among the first "k" units to get the first participant.

Data collection methods

Data was collected using data abstraction format and the standardized WHOQOL-BREF questionnaire [1]. Data regarding drug adherence, perceived stigma, self-esteem, social support, sleep quality and substance use was collected by using questionnaire adopted from different tools.

Data entry and analysis

After checking for its completeness, data was checked, cleaned, and entered into Epi data version 3.1 and transferred to SPSS version 25 for analysis. Descriptive statistics were expressed in frequency, percentage, mean and standardization to summarize socio demographic, clinical and personal characteristics and evaluate distribution of responses.

Linear regression model was used to assess the association between the dependent and different explanatory variables. Variables with p-value<0.2 were further analyzed by multiple linear regression and value<0.05 take as level of significance. The psychometric property WHO QOL-BREEF questionnaire was tested for its reliability by author's Cranach's alpha test value of >0.7 as accepted internal consistency.

Ethical consideration

The respondents' rights and dignity was respected. Written consent was obtained from the study participant (for the minors especially for those <18 years consent was obtained from their parents) to confirm willingness for participation after explaining the objective of the study. The respondents were notified that they have the right to refuse or terminate at any time of the interview. The information provided by each respondent was kept confidential throughout the research process.

Results

Socio-demographic characteristics

A total of 462 participants took part with a response rate of 98%. The mean age of the participants was 33.31 (± SD=13.7) years. Among the participants 297 (64.3%) were males and 165 (35.7) were females. Majority of the participants, 145 (31.4%) were within the age group of 25-34 years (Table 1).

Table 1. Socio demographic characteristics of epileptic patients on treatment follow up in North Shoa Administration, Amhara National State, Ethiopia, 2021.

Variables	Categories	Frequency	Percentage
Sex	Male	297	64.3
	Female	165	35.7
Age	18-24 years	138	29.9
	25-34 years	145	31.4
	35-44 years	90	19.5
	>44 years	89	19.3
Marital status	Single	194	42.0
	Married	242	52.4
	Divorced	26	5.6
Religion	Orthodox	389	84.2
	Muslim	58	12.6
	Protestant	14	3.0
	Catholic	1	0.2
Educational status	Cannot read and write	106	22.9
	Primary school	170	36.8
	Secondary school	62	13.4
	Diploma	83	18.0
	First degree	41	8.9
Occupational status	Unemployed	33	7.1
	Farmer	106	22.9
	Housewife	34	7.4
	Student	76	16.5
	Employed	84	18.2
	self-employed	129	27.9
Income level	<1000	214	46.3
	1001-2500	80	17.3
	2501-4000	80	17.3
	>4000	88	19.0

Clinical characteristics

The mean age for the onset of epilepsy was 22.68 (± SD=12.8) years. Regarding the duration of the illness, 187 (40.5%) had 11 and above years. The majority of the participants, 377 (81.6%) were under mono therapy, and 220 (47.6%) had one or more seizure attack during last follow up. The mean of AED adherence was 7.2 ± 0.82.

Psychosocial factors

Regarding personal and social characteristics of the participants, 236 (51.1%) had perceived stigma; 212 (45.9%) had poor social support. About 377 (81.6%) had good Sleep quality and 49 (10.6%) of the participants were ever used substances for a non-medical purpose and the mean score of self-esteem of the participants were 20.1 ± 3.7.

Mean quality of life score of participants

The overall mean (SD) score of quality of life among epilepsy patients was 57.2 ± 12.3. Among four domains of WHO QOL-BREF, participants scored highest in the physical domain (62.43 ± 6.5), while the lowest mean (SD) score was for environment domain (49.59 ± 7.03).

Factors associated with quality of life

A simple linear regression was performed in connection to a variety of variables that could potentially influence quality of life. Variables with p-value<0.20 during simple linear regression analysis were selected for further analysis in multiple linear regression analysis.

Discussion

This study tried to assess quality of life and associated factors among patients with epilepsy. According to this study finding, the mean quality of life score among participants was 57.2 (± SD=12.3). This result was in line with 61.49 mean score of Indian (24), 58 mean score of Ugandan(6), 60.47 mean score of Wollega zone, 58 mean score of South Wollo and 60.14 mean score of Amanuel mental specialized hospital studies.

In this study, the mean quality of life score in epileptic patients is higher, compared to a study conducted in Kenya (mean score of 49.90), and Bhutan (mean score of 48.9). This difference could be due to sample size, clinical characteristics of the participants, cultural differences, or the study setting. When compared to the Kenyan and Bhutanese samples, this study had a larger sample size.

Conclusion

The mean quality of life of people living with epilepsy in this study was low. The finding from this study also indicated that age, marital status, frequent seizure, comorbid anxiety, antiepileptic drug no adherence, poly therapy, moderate and poor social support were the predictors of quality of life.

Acknowledgement

We would like to acknowledge Debre Birhan University and CBE office for financial and technical support. We also would like to express our heartfelt thanks to our advisor Mr. Akine Eshete (BSc, MPH and Assistance professor of public health) and Mr. Nigus Alemnewu (BSc, MSc) for their genuine and valuable comment given for us.

Funding

None.

Conflict of Interest

The authors declare that they have no competing interests.

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How to cite this article: Guday, Esubalew, Engdaye G, Tekleyohannes B and Alemnew N, et al. “Quality of Life and its Associated Factors among Epileptic Patients on Treatment Follow-up in North Shoa Administration, Amhara National State, Ethiopia.” *J Neurol Disord*. 11 (2023):534.