

# Health-Related Quality of Life and the Associated Predictors Among People with Epilepsy: WHOQOL-BREF Scale

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## ABSTRACT

Epilepsy is a chronic disorder characterized by recurrent seizures which not only affect patients' physical health but also affect psychological, social, cognitive, and behavioral functioning. People with Epilepsy (PWE) face various problems that lower their quality of life which further gets affected by the presence of frequent seizures, the stigma of unexpected seizures and society, broken marriages, and various myths & misconceptions. Therefore, careful evaluation of physical health, types of seizures, treatment regimen, and quality of life is essential in improving overall health. This study aimed to assess & compare Health-related Quality of Life (HRQOL) among PWE receiving epilepsy care. This cross-sectional study includes 138 people with epilepsy above 12 years of age already screened, diagnosed & recruited by a panel of neurologists under the Community intervention for Epilepsy (CIFE) project. The patients were receiving free Anti-epileptic drugs (AED), free monthly-checkups by neurologists and were regularly assessed for compliance, no. of seizures and other complications by nurses for 24 months. The patients who have completed 24 months of assessment were interviewed using the WHOQOL-BREF scale to assess health-related quality of the life. Non-parametric statistical analysis and multiple regression analysis were carried out for statistical significance.

**Keywords:** [Epilepsy, People with Epilepsy, Quality of Life]

## INTRODUCTION

Epilepsy is defined as a disease of the brain characterized by at least two unprovoked (or reflex) seizures occurring greater than 24 hours apart or 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 or diagnosis of an epilepsy syndrome (ILAE, 2014).<sup>1</sup> As per the 2016 Global Burden of

Disease Collaborators, epilepsy represents a considerable disease burden, accounting for about 46 million people worldwide.<sup>2</sup> About one-third of PWE have poor long-term outcome in terms of persistent seizures after remission or without remission.<sup>3</sup> The people with epilepsy experience various physical effects of epilepsy such as temporary confusion, stiff muscles, uncontrollable jerking movements of the arms and legs, loss of consciousness or awareness,

headaches etc. Along with the physical health, epilepsy also affects psychological, social, cognitive and behavioral functioning of the person. The occurrence of seizures is uncertain and can make patients anxious, depressed or stigmatized, socially excluded and reduce their self-esteem. Also, the people with epilepsy may experience various associated medical or psychiatric comorbidities which negatively impacts overall quality of life (QoL).<sup>4</sup>

QOL refers to an individuals' perception of their position in life with respect to culture and value systems in which they live and includes their perception of their overall well-being, as well as goals, expectations, and concerns.<sup>5</sup> The QOL can be affected by various factors such as age, gender, area, education, seizure severity, presence of comorbidities, presence of adverse effects, treatment regimen, social stigma, etc. Careful assessment of physical health, types of seizures, treatment regimen and quality of life is essential in improving overall health.

The aim of our study was to assess the quality of life in a large sample of PWE who are more than 12 years of age using a WHOQOL-BREF scale and to explore the predictors affecting the quality of life such as socio-demographic characteristics and clinical profile (seizure frequency, duration of epilepsy, age at onset of epilepsy, treatment regimen, presence of adverse effects).

## **MATERIALS & METHODS**

A cross-sectional study design was used to assess the health-related quality of life among people with epilepsy (PWE). The study included 138 PWE more than 12 years of age already screened, diagnosed & recruited by a panel of neurologists under a community-based trial (CIFE)s during which 59509 people were screened for epilepsy in urban & peri-urban rural areas of Ludhiana, Punjab. Briefly, the trained field workers carried out a door-to-door screening in 24 clusters of around 2000 people each using a previously

validated questionnaire between May 01, 2017, and June 22, 2018. Screen-positive people were then invited for evaluation by neurologists (including a paediatric neurologist) specialized in epilepsy at a tertiary-care hospital facility for the diagnosis and further treatment plan.<sup>6</sup> Written permission was taken from Institutional Ethical Committee. Informed consent was obtained from all PWE. Consented people with epilepsy who were above 12 years of age, enrolled under the project, diagnosed with epilepsy, completed 24 assessments (one per month) under the project, able to understand & respond to questions from the study instrument and willing to participate were enrolled in the study. The exclusion criteria include the PWE who have not completed 24 assessments under the project. Details of clinical condition, seizure frequency, treatment regimen, presence of comorbidities and adverse effects were taken from the medical records of PWE. People with epilepsy were interviewed for demographic data, clinical profile, and quality of life using the WHOQOL- BREF scale (1996). The WHOQOL-BREF contains a total of 26 questions. The 24 items are based on 4 domains i.e., physical health, psychological, social relationships and environment and the other 2 items assess the overall perception of quality of Life and overall perception of their General Health. Each item is scored from 1 to 5 on a 5-point Likert scale. Raw domain scores were transformed on a scale ranging from 0-100 as per the guidelines.<sup>7</sup> The mean scores are then multiplied by 4 to make domain scores comparable with WHOQOL-100. The formula used to transform the scores to 0-100 scale was:

Transformed scale =  $([\text{Actual score} - \text{Lowest possible raw score}] / \text{Possible raw score range} * 100)$  Domain scores were scaled in a positive direction i.e., higher the scores, higher quality of life. A total score was determined by summing scores across all items, thus total scores on the WHOQOL-BREF could range from 26 to

130. From the previous studies that have used WHOQOL-BREF, the following scores were extracted and applied: scores  $\leq 45$  – Low QOL, scores 46-65 – Moderate QOL, scores  $>65$  – High QOL.<sup>8</sup> The questionnaire has been translated and validated in Hindi and Punjabi language as per the WHO translation guidelines.<sup>9</sup> The data was collected, coded and analysis was done using SPSS version 20. The data was presented using descriptive statistics and as the data was skewed, non-parametric tests (Mann-Whitney test & Kruskal Wallis) were applied for univariate analysis and then multiple regression analysis was carried out to find associated predictors. The level of significance kept was  $p < 0.05$ .

## RESULTS

### Socio-demographic characteristics of people with epilepsy (PWE)

Among the 138 PWE that were interviewed, the majority i.e., 88 (63.8%) were male and 80 (58%) were found in the age group of 13-30 years with the mean age of  $30.2 \pm 13.3$  (median 29 years). More than half of PWE 83 (60.1%) were residing in urban area and majority 85 (61.6%) were followers of Hindu religion. 88 (63.8) PWE were from Punjab and rest were out of Punjab. Nearly one-third of PWE 54 (39.1) were having secondary/senior secondary education. 65 (47.1%) PWE were working and out of them, 26 (40%) were working as unskilled workers. As per Kuppaswamy's Socio-Economic status scale<sup>10</sup>, the majority of the PWE 100 (72.5) belonged to Upper Lower (IV) class (Table 1).

**Table 1: Sociodemographic profile of people with epilepsy (PWE) N=138**

Sociodemographic Variables	f (%)
Age (in years)	
13-30	80 (58)
30-50	46 (33.3)
50-70	11 (8)
70-90	1 (0.7)
Gender	
Male	88 (63.8)
Female	50 (36.2)
Marital Status	
Unmarried	72 (52.2)
Married	58 (42)
Widow/Widower/ Separated	5 (3.6)
Divorced	3 (2.2)
Habitat	
Rural	55 (39.9)
Urban	83 (60.1)
Region	
Punjab	88 (63.8)
Out of Punjab	50 (36.2)
Education	
Illiterate	35 (25.4)
Primary	32 (23.2)
Secondary/ Senior Secondary	54 (39.1)
Graduate	7 (5.1)
Studying	10 (7.2)
Working Status	
Yes	65 (47.1)
No	73 (52.9)
Occupation (n=65)	
Professional	2 (3.1)
Skilled worker	18 (27.7)
Semi-skilled worker	19 (29.2)
Unskilled worker	26 (40)
Socioeconomic Status (Kuppaswamy Scale)	
Upper middle (II)	8 (5.8)
Lower middle (III)	27 (19.6)
Upper Lower (IV)	100 (72.5)
Lower (V)	3 (2.2)

**Mean Age:  $30.2 \pm 13.3$**

## Clinical Profile of people with epilepsy (PWE)

**Table 2: Clinical/Seizure-related profile of People with epilepsy N= 138**

Clinical/Seizure-related Profile	f (%)
Diagnosis	
Unclassified	49 (35.5)
SFE	52 (37.7)
SGE	9 (6.5)
IGE	27 (19.6)
IFE	1 (0.7)
Types of Seizures	
Unclassified	23 (16.7)
Focal Seizures	20 (14.5)
Generalized Seizures	95 (68.8)
Age of onset of Seizures (in years)	
< 5	26 (18.8)
5–10	18 (13)
10 –15	29 (21)
15 – 20	22 (15.9)
20 – 25	25 (18.1)
>25	18 (13)
Duration of Seizures (in years)	
< 5	26 (18.8)
5–10	26 (18.8)
10 –15	26 (18.8)
15 – 20	22 (15.9)
20 – 25	11 (8)
>25	27 (19.6)
Previous frequency of seizures	
Daily	10 (7.2)
Weekly	15 (10.9)
Monthly	39 (28.3)
Annually	8 (5.8)
Sporadic	39 (28.3)
Biannually	27 (19.6)
Family History of seizures	
Yes	38 (27.5)
No	100 (72.5)
Previous treatment for epilepsy	
Yes	117 (84.8)
No	21 (15.2)
Seizure in last 30 days	
Yes	26 (18.8)
No	112 (81.2)
Occurrence of Seizures in last 24 months	
Yes	89 (64.5)
No	49 (35.5)
Treatment Regimen	
Monotherapy	69 (50)
Polytherapy	69 (50)
Any adverse drug reactions	
Yes	34 (24.6)
No	104 (75.4)
Seizure Control	
Controlled	127 (92)
Uncontrolled	4 (2.9)
Reduced Frequency	7 (5.1)
Perception of health after current treatment	
Slightly better	16 (11.6)
Better	42 (30.4)
Very Good	75 (54.3)
No improvement	5 (3.6)

Mean Age of Onset of seizures:  $15.3 \pm 11.9$ ; Mean duration of seizures:  $14.9 \pm 11.6$

In nearly one-fourth of PWE i.e., 29 (21%) the age of onset of seizures was 10-15 years followed by 20-25 years. The mean age of

onset and duration of epilepsy was  $15.3 \pm 11.9$  years and  $14.9 \pm 11.6$  years respectively. More than one-fourth of PWE

39 (28.3%) were having seizures every month before this treatment. 26 (18.8%) PWE had seizures in last 30days and 89 (64.5%) PWE had seizures in last 24 months. The family history of epilepsy was present in 38 (27.5%) PWE. Equal number of PWE 69 (50) each were on Monotherapy and Polytherapy as treatment regimen for epilepsy. The adverse drug effects were present in 34 (24.6%) PWE and 66 (47.8%) had other co-morbidities present. As reported by PWE, seizures were controlled in 127 (92%) while in 4 (2.9%) seizures were still not controlled (Table 2).

### Health-related Quality of Life (HRQOL)

The WHOQOL-BREF scale was used to calculate quality of life in PWE. The mean score as per the domains such as physical health, psychological, social and environmental health was  $62.1 \pm 20.5$ ,  $65.8 \pm 23.8$ ,  $54.3 \pm 24.2$  and  $66.2 \pm 17.8$  respectively. The total mean score was  $63.8 \pm 17.8$ . Higher scores indicate higher quality of life. The most affected domain is the social relationships followed by physical health (Table 3). As per the levels of QOL classification, 75 (54.4%) were having high QOL while 21 (15.2%) were having poor QOL (Table 4).

Table 3: Health related QOL (HRQOL) among people with epilepsy asper WHO- QOL BREF scale N=138

Domains	No. of items	Mean $\pm$ SD
General Health	2	70.8 $\pm$ 23.6
Physical health	7	62.1 $\pm$ 20.5
Psychological health	6	65.8 $\pm$ 23.8
Social Relationship	3	54.3 $\pm$ 24.2
Environmental health	8	66.2 $\pm$ 10.7
Overall HRQOL	26	63.8 $\pm$ 17.8

Table 4: Distribution of people with epilepsy according to the WHOQOL-BREF scale domains N=138

QOL Domains	No. of items	Poor	Moderate	High
Physical health	7	29 (21)	46 (33.3)	63 (45.7)
Psychological health	6	26 (18.8)	31 (22.5)	81 (58.7)
Social Relationship	3	56 (40.6)	30 (21.7)	52 (37.7)
Environmental health	8	8 (5.8)	42 (30.4)	88 (63.8)
Total HRQOL	24	21 (15.2)	42 (30.4)	75 (54.4)

Scores  $\leq$  45: low QOL, scores 46-65: moderate QOL, scores  $>$ 65: high QOL

### Comparison & Association of WHOQOL-BREF mean scores with socio-demographic variables & clinical profile of PWE

The mean score of four domains and total HRQOL score as per age, gender, marital status, habitat, region, education, working status, and socioeconomic status are presented in Table 5. As per the results of the univariate analysis of domain scores with sociodemographic variables, a significant difference was found in marital status, region, education, working status, and socioeconomic status. Also, an association of total score and scores of four domains with clinical/ seizures-related profile of PWE was observed and a significant difference was present with the age of onset of seizures, the occurrence of seizures in the last 30 days & 24 months, treatment regimen, presence of adverse-

effects and comorbidities (Table 6). The multivariate linear Regression analysis showed that the HRQOL was significantly affected by modifiable & non-modifiable predictors. The overall HRQOL was affected by education, working status, socio-economic status (SES), age of onset of seizures, frequency of seizures, treatment regimen, presence of comorbidities, and admissions in last 24months. The predictors of low HRQOL as per physical health were education, working status, SES, frequency of seizures and presence of comorbidities. Furthermore, education, working status, SES, treatment regimen, presence of comorbidities and the admissions in last 24 months are the predictors that affect psychological health. HRQOL as per social health was significantly associated with age, working status, age of onset of seizures, frequency of seizures and history of

admissions in 24 months. The significant predictors of low HRQOL scores as per environmental health were SES, frequency of seizures and presence of comorbidities.

**Table 5: Comparison & association of mean QOL scores as per various domains with sociodemographic profile of PWE N=138**

Sociodemographic Variables	Physical Health	Psychological Health	Social Relationships	Environmental Health	Total HRQOL
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Age (in years)					
13-30	63.4 ± 20.7	66.1 ± 25.2	51.7 ± 23.2	66.8 ± 10.4	62.0 ± 17.5
30-50	61.1 ± 20.9	65.9 ± 22.6	58.5 ± 25.9	64.5 ± 11.8	62.5 ± 17.9
50-70	59.1 ± 13.9	66.7 ± 12.5	59.1 ± 19.2	68.7 ± 8.5	63.4 ± 8.9
70-90	25.0 ± 10.1	41.7 ± 8.8	8.3 ± 3.5	62.5 ± 12.3	34.4 ± 10.1
p value*	.328	.683	.042	.628	.552
Gender					
Male	62.9 ± 21.5	66.7 ± 23.3	56.3 ± 23.2	66.0 ± 10.3	63 ± 17.34
Female	60.6 ± 18.4	64.3 ± 23.9	50.8 ± 25.6	66.4 ± 11.5	61 ± 16.1
p value**	.404	.496	.357	.722	.371
Marital Status					
Unmarried	63.3 ± 22.0	64.7 ± 26.9	45.5 ± 20.6	65.8 ± 11.5	59.8 ± 18.2
Married	60.8 ± 19.4	67.8 ± 18.9	67.2 ± 22.6	66.5 ± 10.4	65.6 ± 15.7
Widow/Widower	57.8 ± 13.4	56.7 ± 24.0	41.7 ± 30.6	66.8 ± 4.7	55.7 ± 16.3
Divorced	61.9 ± 14.4	72.2 ± 10.4	36.1 ± 4.8	65.6 ± 8.3	58.9 ± 8.5
p value*	.676	.836	.001	.987	.264
Habitat					
Rural	62.6 ± 17.8	67.1970 ± 19.5	55.5 ± 23.6	64.6 ± 12.0	62.5 ± 15.6
Urban	61.7 ± 22.1	65.0 ± 25.1	53.5 ± 24.6	67.2 ± 9.7	61.8 ± 18.2
p value**	.831	.886	.659	.205	.936
Region					
Punjab	62.2 ± 21.6	66.4 ± 24.6	54.9 ± 24.8	67.8 ± 9.7	62.8 ± 17.7
Out of Punjab	61.8 ± 18.3	65.0 ± 21.4	53.2 ± 23.1	63.2 ± 11.7	60.8 ± 16.2
p value**	.647	.576	.653	.025	.425
Education					
Illiterate	56.1 ± 20.6	59.4 ± 23.1	51.2 ± 21.7	65.4 ± 10.1	57.9 ± 15.8
Primary	58.6 ± 19.9	60.0 ± 22.8	49.7 ± 25.6	62.7 ± 10.7	57.7 ± 17.2
Secondary/ Sr. Secondary	65.8 ± 19.8	70.7 ± 22.5	61.7 ± 24.9	68.2 ± 11.4	66.6 ± 17.4
Graduate	64.8 ± 27.7	71.4 ± 26.2	51.2 ± 24.3	66.9 ± 11.1	63.6 ± 20.5
Studying	71.8 ± 14.1	77.1 ± 22.8	41.7 ± 13.6	68.1 ± 6.5	64.7 ± 12.9
p value*	.066	.028	.035	.259	.084
Working Status					
Yes	69.1 ± 18.1	73.2 ± 19.8	61.7 ± 23.3	67.3 ± 10.8	67.8 ± 15.4
No	55.7 ± 20.5	59.1 ± 24.6	47.5 ± 23.1	65.1 ± 10.6	56.8 ± 17.1
p value**	.001	.001	.001	.241	.001
Socio-Economic Status					
Upper Lower (IV)	69.3 ± 14.5	76.8 ± 14.9	75.0 ± 19.2	72.3 ± 7.5	73.4 ± 11.4
Lower middle (III)	70.4 ± 20.3	73.8 ± 24.3	56.9 ± 25.4	69.3 ± 10.5	67.6 ± 17.9
Upper middle (II)	59.3 ± 20.4	62.8 ± 23.4	51.8 ± 23.7	64.9 ± 10.6	59.8 ± 16.9
Upper (I)	54.4 ± 16.3	63.5 ± 14.9	58.3 ± 22.5	62.5 ± 13.5	59.7 ± 11.7
p value*	.033	.044	.090	.048	.042

\*Kruskal Wallis test value, \*\* Mann- Whitney test value

**Table 6: Comparison & association of mean QOL scores as per various domains with clinical/ seizure-related profile of PWE N=138**

Clinical/ Seizure-related profile	Physical Health	Psychological Health	Social Relationships	Environmental Health	Total HRQOL
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Age of onset of Seizures (in years)					
< 5	53.7 ± 20.5	50.5 ± 24.3	33.6 ± 16.7	60.7 ± 10.9	49.6 ± 16.2
5-10	57.9 ± 22.1	62.7 ± 22.3	58.3 ± 23.1	67.0 ± 8.0	61.5 ± 16.5
10-15	67.8 ± 10.1	71.5 ± 22.1	55.7 ± 18.5	67.1 ± 11.2	65.5 ± 14.6
15-20	65.9 ± 21.6	70.1 ± 25.7	58.7 ± 28.5	69.6 ± 9.3	66.1 ± 18.7
20-25	65.5 ± 18.3	72.7 ± 18.4	62.7 ± 21.5	68.0 ± 7.5	67.2 ± 13.7
>25	59.3 ± 21.4	67.6 ± 20.8	60.6 ± 26.6	64.7 ± 14.9	63.1 ± 18.5
p value*	.107	.010	.001	.164	.002
Duration of Seizures (in years)					
< 5	61.8 ± 20.9	68.7 ± 25.2	56.4 ± 21.1	65.1 ± 10.5	63.0 ± 17.1
5-10	65.3 ± 20.5	69.1 ± 25.3	56.7 ± 21.8	68.3 ± 12.9	64.8 ± 17.7
10-15	65.5 ± 20.5	69.2 ± 22.9	54.9 ± 27.8	69.5 ± 10.7	64.8 ± 18.2
15-20	63.7 ± 22.4	64.8 ± 23.2	47.6 ± 25.4	63.9 ± 8.4	60.1 ± 17.1
20-25	59.7 ± 20.6	65.9 ± 19.3	69.6 ± 17.5	66.7 ± 7.2	65.5 ± 14.6
>25	55.2 ± 18.2	57.4 ± 22.1	48.1 ± 24.9	63.1 ± 10.8	55.9 ± 16.3

Table 6 To Be Continued...					
p value*	.358	.284	.111	.145	.305
Occurrence of Seizures in 24 months					
Yes	58.7 ± 21.1	61.8 ± 24.5	53.2 ± 24.4	64.1 ± 11.0	60.9 ± 18.6
No	68.1 ± 18.1	73.3 ± 19.4	56.3 ± 23.8	69.9 ± 9.1	69.1 ± 15.3
p value*	.015	.010	.434	.002	.012
Seizure in last 30 days					
Yes	48.9 ± 21.1	49.2 ± 25.9	49.4 ± 24.8	61.4 ± 10.8	52.5 ± 10.1
No	65.1 ± 19.2	69.8 ± 21.2	55.4 ± 24.1	67.2 ± 10.4	66.4 ± 16.6
p value**	.001	.001	.270	.009	.001
Treatment Regimen					
Monotherapy	66.5 ± 20.3	71.8 ± 22.4	58.3 ± 24.2	68 ± 10.9	66.2 ± 16.7
Polytherapy	57.6 ± 19.7	59.9 ± 23.1	50.3 ± 23.6	64.3 ± 10.2	58.1 ± 16.8
p value**	.007	.002	.047	.033	.005
Any ADR					
Yes	55.3 ± 20.7	57.4 ± 25.4	47.3 ± 24.3	63.2 ± 11.5	55.8 ± 17.5
No	64.3 ± 19.1	68.7 ± 22.2	56.6 ± 23.8	67.1 ± 10.3	64.2 ± 16.6
p value*	.032	.025	.054	.105	.024
Comorbidities present					
Yes	54.7 ± 20.5	57.9 ± 24.1	49.1 ± 25.8	63.1 ± 10.7	56.2 ± 17.4
No	68.8 ± 18.1	73.2 ± 20.4	59.0 ± 21.7	68.9 ± 10.1	67.5 ± 15.1
p value**	.000	.000	.024	.001	.001

\*Kruskal Wallis test value, \*\* Mann- Whitney test value

**Table 7: Results of Regression analysis of variables associated with total health-related quality of life and other domains of HRQOL in people with epilepsy N=138**

Variables	Physical Health		Psychological Health		Social Relationships		Environmental Health		Total HRQOL	
	β	p value	β	p value	β	p value	β	p value	β	p value
Age (in years)	-.152	.221	-.091	.442	-.302	.025	-.020	.881	.186	.126
Education	.219	.046	.232	.001	.042	.602	.113	.153	.177	.016
Working Status	-.328	.001	-.303	.001	-.296	.001	-.102	.236	.322	.001
Socio-economic status	-.220	.003	-.197	.005	-.125	.113	-.208	.007	-.209	.004
Age of onset of seizures	.160	.203	.209	.082	.457	.001	.029	.829	.285	.021
Frequency of Seizures	.148	.043	.132	.081	.192	.026	.222	.008	.192	.014
Treatment regimen	-.112	.156	-.142	.045	-.79	.361	-.074	.384	-.122	.012
Co-morbidities	.332	.001	.306	.001	.163	.037	.229	.003	.297	.001
Adverse drug reaction	.021	.784	.055	.453	.127	.128	.034	.678	.075	.318
Admissions in last 24 months	.119	.138	.158	.039	.168	.043	.129	.126	.169	.031
Occurrence of Seizures in last 30 days	.139	.134	.113	.201	.114	.250	.020	.835	.043	.635
Occurrence of seizures in last 24 months	.035	.658	.023	.302	.115	.183	.108	.200	.005	.947

## DISCUSSION

The study was conducted to assess the HRQOL among PWE under the CIFE project and had completed treatment for 24 months. The factors related to low HRQOL were also explored under the study. Overall poor HRQOL was reported by 15.2% of PWE which is lower than the study conducted at Ambo General hospital which reported 24.4% of study participants with poor HRQOL.<sup>11</sup> In the present study among four domains of WHOQOL-BREF scale, the highest mean scores were reported in environmental health, followed by psychological health and was lowest in social relationships. The results are in line with the other study conducted at Amanuel Mental Specialized Hospital, Ethiopia that also reported lower mean scores in social domain.<sup>12</sup> The result is similar with the

study conducted in Southern India. Although these results are in contrast to the other study that reported highest mean scores in the social domain. The overall mean scores in the study were  $63.8 \pm 17.8$  which was higher than the study conducted at a Secondary care rural hospital in South India (51.49).<sup>13</sup> As per this study, the significant predictors of HRQOL among PWE for the four domains were age, marital status, working status, age of onset of seizures, presence of comorbidities, perception of health and occurrence of seizures in last 30 days. The similar study on 121 PWE also reported presence of comorbidities, uncontrolled seizures, low education level and marital status are the significant predictors along with polypharmacy which is the contrast finding to the present study.<sup>14</sup> The study conducted

at Bulgaria showed no significant association with marital status.<sup>15</sup> The study has used the generic WHOQOL-BREF scale which is not particular to epilepsy although it is validated and reliability has been checked.

## CONCLUSION

The study concludes that 15.2% of PWE had poor HRQOL among which social relationship domain had the lowest mean scores. The factors associated with poor HRQOL were marital status, working status, age of onset of seizures, presence of comorbidities and occurrence of seizures in last 30 days.

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