Marital status of patients with epilepsy: Factors and quality of life

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ABSTRACT

Purpose: The study investigated how marital status relates to clinical aspects and quality of life (QOL) in patients with epilepsy (PWE).
Method: The clinical data and Quality of Life in Epilepsy Inventory (QOLIE-31) scores of 252 PWE were regressed against their marital status with a significance level of 5% ($p < 0.05$).
Results: Logistic regression for single and married PWE revealed that singles had more abnormalities in the neurological examination ($p = 0.029$) and earlier seizure onset ($p < 0.001$), while for married and divorced PWE revealed the latter more psychiatric comorbidities ($p = 0.002$) and longer disease duration ($p = 0.011$). Regarding QOL score, linear regression showed that psychiatric comorbidity was the only factor ($p < 0.001$).
Conclusion: The marital status of PWE is negatively associated with clinical aspects of epilepsy.

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1. Introduction

Epilepsy is still plagued by myths and prejudice [1]. The aspects stigma and social exclusion are frequently found in patients with epilepsy (PWE) living in different cultures, but they occur more often in developing countries [2] and in those with less social support [3]. People still have a negative attitude toward PWE despite the advances reported in recent studies [1,4]. The stigma perceived by PWE affects their self-esteem, family, social life, work, and marital perspectives, and has a negative impact on their quality of life (QOL) [5].

Marriage is less common in PWE than in individuals with other chronic diseases or from the general population [6–8], and the negative impact of the disease is greater when it begins in the first decade of life [8–10]. Studies in many countries and cultures describe that families still object to their children marrying PWE, even those with controlled epileptic seizures (ES), because of the belief that PWE will pass the illness to their children or because PWE may not fulfill their social and economic roles and obligations [8,11–13]. Female PWE are less likely to tell their future spouses about their epilepsy than male PWE [14,15]. PWE have the highest divorce rates [4,14,16,17]. Longitudinal studies have found that epilepsy has an adverse impact on marriage, even among individuals with controlled ES or who have not taken antiepileptic

drugs (AED) for years [10,18,19]. Female PWE are less likely to marry, have more marital problems, and divorce more than male PWE with similar clinical conditions [2,20]. The marital relationship is an important component of family and social support, and failure to reach or maintain marriage goes against social norms and expectations. In the general population, married individuals report greater life satisfaction and better physical and psychological health [21]. The spouse is often the caregiver of PWE [4]. Poor social integration in epilepsy can lead to loneliness, social maladjustment, inappropriate behaviors, and social exclusion [22].

Studies on the marriage rates and maintenance of PWE are few, and findings are likely to be strongly influenced by culture. There is only limited knowledge about the implications of the clinical aspects of epilepsy, such as age at onset, seizure type and frequency, epilepsy duration, use of antiepileptic drugs (AED), and epileptic syndrome, on marital adjustment and status. In epilepsy, recognizing the psychosocial and emotional aspects that affect marital status is important to reduce its negative impact on QOL and to help to improve the treatment and counseling of these individuals. It is known that epilepsy has a great impact on the QOL [23,24]. However, it is not yet clear how sociodemographic variables and clinical aspects of epilepsy compromise QOL [23,24]. In the literature there are controversies regarding the association between lower global QOL scores and sociodemographic factors, such as marital status [24,25]. Few studies have assessed how the QOL of PWE relates to their marital status and especially to the occurrence of epilepsy-related marital problems [26].

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This study hypothesizes that the marital status of PWE is associated with the clinical aspects of epilepsy and quality of life. There are rare studies that investigated the relationship between these factors. Hence, the objectives of this study were to assess epilepsy related factors that might have impact on marital status, and also the factors (including marital status) that influence quality of life.

2. Methods

2.1. Patients

PWE were recruited from March to July 2013 at the epilepsy outpatient clinic of the Hospital e Maternidade Celso Pierro (PUC-Campinas), Campinas, São Paulo, Brazil.

Epilepsy was diagnosed according to the International Classification of Epilepsies and Epileptic Syndromes (ILAE) [27] criteria. Patients with symptomatic focal epilepsies included a subgroup of surgery-naive patients with mesial temporal lobe epilepsy with hippocampus sclerosis (MTLE-HS) characterized by their clinical aspects, namely the presence of hippocampus atrophy and loss of digitations of the hippocampal head and definition of internal structure in magnetic resonance imaging. Epilepsy was considered to be under control when the individual did not have an ES in the last 12 months.

Patients who had difficulty understanding the questions in the instruments because of low education level or mental disability were excluded, as well as those with cancer and stroke.

The study was approved by the Human Research Ethics Committee of PUC-Campinas, and the patients signed an informed consent form.

2.2. Procedure

The following procedures were performed:

1. Interview with patients and family members to collect socio-demographic (age, gender, education level, and marital status) and clinical (age at onset, seizure type and frequency, epilepsy duration, neurological antecedents, antiepileptic drugs (AED), and epileptic syndrome) data. The interview was conducted by the author GMAS Tedrus who is an expert in epilepsy and responsible for the medical care provided at the facility.

2. Investigation of psychiatric comorbidity according to the DSM-IV and ICD-10 criteria. The patients were classified into two groups: with and without psychiatric comorbidity.
3. Specific questionnaire on marital status with the following polar (yes–no) questions: 1. Did the ES begin before marriage? 2. Did you tell your spouse about the epilepsy before marriage? 3. Are you single because of epilepsy? 4. Did the ES begin after marriage? 5. Do you have epilepsy-related marital problems? 6. Did you get a divorce because of epilepsy? The patients included in this study had no difficulty understanding the questions in the questionnaire that was administered by the author GMAS Tedrus.
4. Quality of Life in Epilepsy Inventory (QOLIE-31) [28]: epilepsy-specific QOL inventory validated in Brazil by Silva et al. [29]. This inventory has seven domains: worry about seizure, overall quality of life, emotional wellbeing, energy-fatigue, cognitive functioning, medication effects, and social functioning. The overall score ranges from 1 to 100. A higher score indicates higher QOL.

2.3. Data analysis

The patients were classified as single, married, divorced and widowed according to the Interview with patients and family members.

The continuous variables were expressed as mean and standard deviation (SD), and the categorical variables were expressed as frequencies (%). The student's t-test, analysis of variance (ANOVA), and Pearson chi-squared test were used to compare the continuous variables and categorical variables.

Logistic regression and multiple regression were used to determine the relationship between predictor variables and binary or continuous outcome variables (dependent variables) using variables with $p < 0.10$ in the respective prior correlation analyses (independent variables). The data were treated by the software IBM SPSS Statistics, version 22. The significance level was set at 5%.

It was investigated how marital status-related data associated with the clinical aspects of epilepsy and the QOLIE-31 scores at a significance level of 5% ($p < 0.05$).

The effect size was measured by calculating Cohen's f^2 within a multiple regression model (Cohen [30]).

Table 1
Sociodemographic and clinical aspects by marital status.

	Single (n = 57)	Married (n = 131)	Divorced (n = 47)	Widowed[a] (n = 17)	Single × married p value	Married × divorced p value
Age (years)	40.3 (14.2)	47.4 (13.7)	48.1 (12.3)	57.8 (13.3)	0.001[*]	0.775
Gender (male)	49.1%	53.4%	61.7%	35.2%	0.870	0.098
Education level (years)	5.8 (4.2)	6.1 (3.7)	4.9 (3.7)	3.5 (3.6)	0.659	0.069
Employed/	78.6%	90.9%	75%	60%	0.101	0.193
Age at first ES (years)	16.0 (12.7)	27.6 (18.8)	21.5 (15.9)	31.6 (22.0)	0.001[*]	0.055
Epilepsy duration (years)	24.3 (14.9)	19.8 (14.7)	26.5 (14.0)	26.8 (19.4)	0.061	0.009[*]
Seizure type partial	71.9	83.9	74.5	76.5	0.056	0.157
MTLE-HS/other epileptic syndromes	24.6	25.2	40.4	23.5	1.000	0.080
Antiepileptic drugs - one	71.9	71.8	48.9	64.7	1.000	0.009[*]
Epileptic seizure frequency - Uncontrolled	59.6	45.0	61.7	64.7	0.092	0.066
Neurological examination abnormalities present	54.4	28.2	25.5	29.4	0.001	0.846
Psychiatric comorbidity–Present (entre 195 cases)	37.5	38.2	65.8	16.6	1.000	0.004[*]
QOLIE-31 overall score (n = 197)	62.7 (12.4)	60.0 (16.0)	55.4 (17.7)	54.6 (17.5)	0.380	0.201

MTLE-HS: mesial temporal lobe epilepsy with hippocampal sclerosis. When the means are shown, the standard deviations are in brackets.
[*] t-Test or Pearson chi-squared test, $p < 0.05$.
[a] Not included in statistical analysis.