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Potential factors impacting health-related quality of life among patients with epilepsy: Results from the United Arab Emirates

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ABSTRACT

Purpose: to investigate potential factors impacting HRQOL among PWE at a medical facility in the UAE.
Methods: Depression, anxiety, and health-related quality of life were assessed in 160 adult patients with epilepsy from September 2014 to January 2015 at Sheikh Khalifa Medical City (SKMC). The World Health Organization Quality of Life abbreviated scale (WHOQOL-BREF), the Patient Health Questionnaire nine-item (PHQ-9) depression scale, and Generalized Anxiety Disorder seven-item (GAD-7) scale were administered. Demographic details including psychosocial factors were also obtained. Clinical details including seizure freedom, epilepsy type, epilepsy duration, and magnetic resonance imaging (MRI) results were recorded. Multivariate analysis was used to look at significant variables associated with HRQOL.
Results: Depression, anxiety, seizure freedom, and the use of anti-depressants had significant positive correlation with HRQOL in univariate analysis. However, depression, followed by seizure freedom, had the strongest association with HRQOL in a multivariate regression analysis.
Conclusion: Depression and seizure freedom, followed by anxiety and anti-depressants use, were significantly correlated with HRQOL. These results underscore the importance of screening for psychiatric comorbidities in patients with epilepsy.
Implications: Screening for comorbid psychiatric disorders should be an essential component of the standard of care, and incorporated in the treatment plan for all patients with epilepsy. Factors contributing to psychiatric symptoms among PWE, such as maladaptive illness perceptions, non-adherence to anti-epileptic drugs (AED), and social stigma should be carefully addressed to achieve an optimal health-care plan.

1. Introduction

With an approximate 50 million people living with epilepsy worldwide [1], studies are continuously looking at ways of improving the diagnosis and treatment of this chronic neurological disorder. Factors that aggravate, and negatively impact the health condition and quality of life of patients with epilepsy (PWE) include comorbid psychiatric illnesses such as depression and anxiety [2,3]. Research shows that people with epilepsy (PWE) are two to four times more likely to suffer from psychiatric comorbidity than the general population [2,3,4]. Several studies have demonstrated the negative impact of psychiatric illnesses in PWE, affecting their general quality of life [3,5–9]. In a systematic review of 93 studies on multiple predictors of HRQOL among PWE, Taylor et al found that depression and anxiety, along with seizure frequency, appeared to be consistently predictive of poor levels of HRQOL [10]. This review underscores the importance of early detection and appropriate interventions for psychiatric comorbidity. Findings also indicate that psychiatric comorbidities contribute to 30–35% of the variance in HRQOL when compared with clinical factors such as seizure frequency and severity, which account up to only 20% [11–13].

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Potential factors mediating the relationship between psychiatric symptoms and HRQOL in PWE are found to be maladaptive illness perceptions, social stigma, and non-adherence to antiepileptic drugs (AEDs) [7,9,14,15,16,17,18]. These factors emanate from inadequate knowledge of the illness and its chronic nature; PWE view epilepsy negatively, and they are also less likely to communicate their feelings and concerns with others [18]. It is reported that 30–50% of PWE do not regularly take their AEDs for various reasons, including social stigma associated with taking antiepileptic therapies [17]. This, in turn, exacerbates seizure frequency, increases hospitalizations and higher health-care system costs, and results in higher risk of morbidity and mortality [17]. Such studies highlight the importance of investigating factors such as psychiatric comorbidity that negatively impact HRQOL in PWE, which can in turn inform decisions made towards prevention, treatment, and rehabilitation encompassing all aspects of the disease.

In the last decade, more attention has been given to the general study of epilepsy in the Middle East. Regional as well as local research concerning epilepsy, psychiatric illnesses, and quality of life has been carried out in Egypt, Jordan, Oman, and the UAE [5,8,19,20,21,22]. These studies collectively looked at the epidemiological nature of epilepsy, as well as factors impacting the general quality of life in PWE. In a replicate review study, al-Khateeb and al-Khateeb investigated psychosocial aspects of epilepsy in ten Arab countries.22 The UAE came third in place, along with Bahrain and Lebanon, in terms of patients having the highest perception of quality of life. However, a study on HRQOL in the UAE among PWE found epilepsy and its treatment having a significant impact on their social and psychological well-being, with most reporting experiences of stigmatization [23]. In addition, a study by Bener et al found that knowledge and attitude towards epilepsy in the UAE was generally poor and negative, with the majority of participants lacking awareness about causes and treatment options [24]. Furthermore, a study on prevalence of depression and anxiety among PWE in the UAE found PWE having higher rates of depression and anxiety when compared with a control group [5]. To the authors' knowledge, these are the only studies conducted on epilepsy and PWE in the UAE, and psychosocial factors affecting HRQOL remain heavily under-investigated. An update on research investigating epilepsy and HRQOL is significantly needed. The objective of this study, therefore, was to determine the primary predictors of HRQOL in PWE, investigating multiple variables including depression and anxiety symptoms. Age, sex, marital status, and education level were included as demographic variables. Clinical factors included seizure freedom, epilepsy type, epilepsy duration, anti-epileptic drug (AED) use, and MRI results. Following previous studies' findings, it was hypothesized that depression and anxiety would be the primary predictors of lower HRQOL among PWE.

2. Materials and methods

The study received approval from the Shaikh Khalifa Medical Institute ethics board, and informed consent form was obtained from each participating patient.

2.1. Participants

One Hundred Sixty patients (M/F = 65/95) (mean age = 33.0, SD = 10.1 years), attending the SKMC outpatient clinic over a four-month period were approached for the study. Participating patients were asked to complete the validated WHOQOL-BREF [25], the validated PHQ-9 and the GAD-7 questionnaires [26,27]. The English versions, as well as the validated Arabic versions of both questionnaires were used [28].

2.2. Questionnaires

The Patient Health Questionnaire nine-item depression scale (PHQ-9), used in this study is a brief, self-administered tool for the screening and diagnosis of depression. It is based on the nine DSM-IV criteria of depression, and is sensitive to change in depression scores over time. A score of >10 on the PHQ-9 is indicative of the presence of depression. It can therefore be used to monitor response to therapy in this population. The PHQ-9 Depression Scale has been validated in the general as well as in the PWE population [26,29].

The Generalized Anxiety Disorder Scale (GAD-7) was adopted to screen for anxiety disorder. It consists of a brief, seven-item questionnaire that takes less than three minutes to complete, unlike other screening tools widely used in clinical settings that are time consuming. A score of >10 on the GAD-7 is indicative of the presence of Generalized Anxiety Disorder. It has been validated for use in both the general and in the PWE population [27,30].

The WHOQOL-BREF questionnaire was also administered to assess HRQOL [25]. Although not validated for use on the PWE population, this measure was chosen because it was the only standardized HRQOL measure in Arabic known to the authors at the time of conducting the study. It is composed of 26 questions, distributed into four domains. Each domain considers several aspects: A) Physical Domain: pain/discomfort/energy/fatigue/sleep/rest; B) Psychological Domain: feelings/appearance self-esteem/memory and concentration; C) Social Relations Domain: social relations/social support/sexual activity; D) Environment Domain: safety/home environment/finances/leisure/transport/social care. The mean scores of each domain are calculated and reported as they are, with scores ranging between four and 20. In addition to the four domains, the WHOQOL-BREF also has two separate questions to address satisfaction with health and participants' rated QOL. These two questions are scored on a five-point Likert scale, ranging between 'very poor' and 'very good' [31].

2.3. Procedure

The patients were approached for participation before their assessment in the consultation room and were asked for their informed consent. Inclusion criteria included age (18–65) and confirmed diagnosis of epilepsy. The study included patients visiting the clinic for the first time, including those newly diagnosed, as well as patients on a routine follow-up visit. Exclusion criteria included patients with a progressive cognitive deficit who might be incapable of signing the informed consent form. Demographic data were recorded, including age, sex, marital status, and education level. Clinical data was also recorded including seizure type, seizure duration, seizure freedom, antiepileptic drug (AED) use, magnetic resonance imaging (MRI) findings, and use of antidepressants. Seizure type was recorded based on available clinical evidence including results of video/electroencephalogram (EEG) telemetry. Epilepsy diagnosis was classified as 'undetermined' when the available data were not adequate to make an accurate classification. Epilepsy duration was determined based on two groups: patients who have had epilepsy for less than five years and patients who have had them for longer than five years. This classification was done based on a previous study which used similar design [5]. Similar to other studies in the literature, patients were considered seizure-free if they had no seizures, including simple partial seizures (aura), in the previous six months prior to their clinic visit [32,33]. All patients had an epilepsy protocol brain MRI, which is a standard protocol for patients presenting to the epilepsy clinic. Patients were subdivided according to their MRI findings as either epileptogenic if they had