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Prevalence of Anxiety, Stress and Depressive Symptoms Among Mothers of Children With Epilepsy

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Background: Epilepsy is a chronic disease that affects the behavior and cognitive performance of children. In many cases, the emotional impacts of epilepsy on the family are neglected. Besides the emotional distress, recurrent seizures may lead to irreversible effects on family members, especially parents.
Objectives: This study aimed to evaluate the prevalence of anxiety, stress and depressive disorders among mothers of children with epilepsy.
Patients and Methods: This cross-sectional study was conducted on 100 mothers of children with epilepsy. Depression, stress, and anxiety were evaluated using the depression anxiety stress scales (DASS). Data were analyzed by SPSS version 17 and the statistical test of ANOVA.
Results: In this study, 14%, 33%, 8% and 20% of the mothers had mild, moderate, severe and very severe levels of anxiety, respectively. As far as the stress is concerned, 8%, 26%, 7% and 11% of the mothers had mild, moderate, severe and very severe levels of stress, respectively. Regarding the depression, 7%, 42%, and 1% of them had mild, moderate and severe level of depression, respectively.
Conclusions: The results of the present study showed a significant correlation between mother's education with stress and depression. However, no significant correlation was observed between the three aforementioned problems and children's personal and familial specifications.

*Keywords:*Epilepsy; Anxiety; Depression; Children

1. Background

Epilepsy is a common and chronic neurological disorder influencing children's cognitive and behavioral performance (1). Unpredictable nature of this disorder can obviously affect both the physical and emotional functioning of children and their families (2-5). Prevalence rates for depression in adults with epilepsy have ranged from 34% to 78% (6-8). Children and adults with epilepsy are at risk for depression (9, 10). The emotional impact of epilepsy on family members is often neglected. Recurrent seizures may lead to irreversible effects on family members, especially parents (11). Therefore, family beliefs about epilepsy can have significant influence on both children and family. The social misbelief about epilepsy-induced disability may affect adaptation of children and parents with epilepsy (12). Studies have shown that children with epilepsy are at high risk to suffer from behavioral and emotional problems such as depression, anxiety, obsessive, and social anxiety as well as attention and learning problems (13), while the number of research done on the effects of epilepsy on family members and other caregivers are so few (10, 14). The outcomes of some studies suggest that the prevalence of depression and anxiety among mothers of children with epilepsy is high (15, 16). Nevertheless, it has been shown that the more parents' knowledge about the nature of their child's illness, the healthier they are. On the other hand, studies have suggested that anxious parents may unnecessarily restrict their children activities because of too much worrying about the threatening risks of the disease and misunderstanding of their children's abilities and disabilities. Research results indicate that for having an acceptable quality of life, children with epilepsy and their parents need something more than a medical treatment (16). In other words, in addition to medical treatments, they need serious and new changes in their lifestyle.

2. Objectives

Since the general health may play an important role in the treatment of children with epilepsy, the objective of this study was to evaluate the prevalence of depression, anxiety and stress in these children.

3. Patients and Methods

This cross-sectional descriptive and analytic study was conducted on 100 mothers of children with epilepsy referred to the Ali-Ebne Abi-Taleb Hospital in Zahedan during 2012-2013. Inclusion criteria included parents of children with epilepsy and the elapse of minimum six months from the diagnosis of the disorder. Exclusion criteria included the unwillingness of parents, death of child during the study, and unwillingness of parents to continue the treatment. Moreover, sampling was carried out through the simple nonrandomized method (available and consecutive). Depression, stress, and anxiety were evaluated using the depression anxiety stress scale (DASS) questionnaire. A written informed consent was obtained from all participants. The data obtained from questionnaires were analyzed by SPSS 17 software and the statistical test of ANOVA.

4. Results

In this study, 53 boys (53%) and 47 girls (47%) were participated. The mean age of epileptic children was 3.3 ± 3.01 years. The mean age of mothers and fathers were 34.2 ± 10.1 and 36.6 ± 9.8 years, respectively (Table 1). The mean number of each family's children was 2.7 ± 1.3 and the mean duration of illness was 2.01 ± 2.3 years. Table 1 shows the parents' education level. Normal mothers composed 25% of all, the level of anxiety was mild in 14 mothers (14%), moderate in 33 mothers (33%), severe in 8 mothers (8%), and very severe in 20 mothers (20%). Furthermore, 48(48%) of the mothers had normal level of stress, 8 mothers (8%) had mild, 26 mothers (26%) had moderate, 7 mothers (7%) had severe, and 11 mothers (11%) had very severe levels of stress. Regarding the depression, 50 (50%) of the mothers had normal, 7 mothers (7%) had mild and 42 mothers (42%) had moderate and only 1 mother (1%) had severe depression (Table 2). According to the one-way ANOVA test, there was no significant association between the age and severity of anxiety (P = 0.99), stress (P = 0.74), and depression (P = 0.66). However, a statistically significant correlation was found between mother's education with stress (P = 0.002) and depression (P = 0.001). According to the chi-square test, there was a significant association between father's education with anxiety (P = 0.007), stress (P < 0.001), and depression (P = 0.038). Analysis of mother's age, using the one-way ANOVA test, indicated a noteworthy correlation between the severity of anxiety (P = 0.028) and stress (P = 0.044) with mother's age; however, no significant association was found between depression and mother's age (P = 0.68). There was also an important association between the severity of anxiety (P = 0.04) and stress (P = 0.03) with father's age; however, no significant association was found between depression and father's age (P = 0.83). No statistically significant correlation was observed between family income and the severity of anxiety (P = 0.21), stress (P = 0.05), and depression (P = 0.07). In addition, no statistically significant association was found between the number of children with the severity of anxiety (P = 0.58), stress (P = 0.17), and depression (P = 0.09). It also became clear that there was no significant correlation between the disease chronicity and the severity of anxiety (P = 0.96), stress (P = 0.77), and depression (P = 0.59).

Table 1. Demographic Characteristics of Parents [a]

	Mothers	Fathers
Age, y	34.2 ± 10.1	36.6 ± 9.8
Education level		
Illiterate	20	17
Literate	5	4
Primary	13	11
High school	18	15
Diploma	24	24
University	20	29

[a] Data are presented as % or Mean ± SD.

Table 2. Prevalence of Depression, Anxiety, and Stress Disorders Among Mothers [a]

Disorder	Severity				
	Normal	Mild	Moderate	Severe	Very Severe
Depression	50	7	42	1	0
Anxiety	25	14	33	8	20
Stress	48	8	26	7	11

[a] Data are presented as %.

5. Discussion

Almost half of the parents in this study were highly educated. In terms of income, about one-third of families earned less than 3 million Rials and one-fourth of them, more than 10 million Rials per month. Half of the mothers were normal in terms of stress and depression, but half of them had a mild anxiety. Moreover, half of the mothers were moderately depressed, one-third of them had the moderate stress and nearly one-fourth of them had the moderate depression. Analytical studies revealed a significant correlation between mother's education and stress and depression, and between father's education and depression, stress and anxiety. There was also a significant association between the ages of mothers and fathers with stress and anxiety. Nevertheless, no significant association was observed between anxiety, stress, and depression and child's age, family income, and number of children in the family. Nematpour and Behrouzian (17), in their study showed psychological problems among 65.7% of parents. Also, 91.4% of the parents were poorly or incorrectly aware of epilepsy. Research findings in this study showed that parents' knowledge about epilepsy is generally weak and wrong, which is associated with their

reduced general health. In our study, half of the mothers suffered from different levels of stress and depression and three fourths of them had anxiety. It seems that the prevalence of these disorders is higher in our study than the mentioned study (17). Aronu and Ojinnaka (18) studied the correlation of epilepsy in adolescents with anxiety and depression of their mothers in Nigeria in 2009. This study indicated that mothers of children with epilepsy had more depression than mothers of children without epilepsy; however, the result was not the same as far as the anxiety is concerned. According to the results, unlike anxiety symptoms, this study supported the findings of previous studies about the high prevalence of depression among children and adolescents with epilepsy compared to normal children. The advantage of this study was to compare the study group with the general population (18). Although we did not perform such a comparison, it seems that the prevalence of depression, anxiety, and stress among mothers in the present study was higher than the general population. The study of Ferro et al. in Canada showed that the risk of clinical depression among mothers of children who have recently suffered from epilepsy was common; and that cognitive problem in children was the strongest predictive factor; however, the severity of epilepsy was not a predictor of depression symptoms. This study recommended a routine examination of depression in mothers of children with epilepsy by health professionals during outpatient visits in the clinic (19). The results of this study are consistent with our findings regarding the high prevalence of depression among mothers of children with epilepsy. As it can be seen, the ubiquity of depression, anxiety, and stress is high among mothers of children with epilepsy and this issue has been confirmed in previous studies. However, previous studies have less examined the relationship of these cases with demographic information, which we mentioned them in our study.

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