

## Brief Communication

### Depression rate among 18-40-year-old patients suffering from generalized tonic-clonic epilepsy referred to Neurology Clinics in an Iranian Hospital

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Epilepsy is the most prevalent chronic CNS disorder in the general population. Approximately 45 million people are epileptic throughout the world. The prevalence of depression among these patients is twice more than individuals suffering from other non diagnosed or partially treated disabling conditions.<sup>1</sup> If such a consequence of epilepsy is not treated, it could bring other consequences, such as failure in therapy, poor quality of life, and social handicaps with higher morbidity and mortality.<sup>2</sup> In this study, the prevalence of epilepsy, as well as the related risk factors, were studied using the Beck test as a simple screening tool.

This was a descriptive convenience study, and it was carried out on people with epilepsy referred to the clinics of Neurology in an Iranian University Hospital during 2004-2005. Ninety-seven patients with documented generalized tonic-clonic seizures according to the history and EEG tracings were enrolled to accomplish the ongoing test. This research was approved by the affiliated university department Ethical Committee, and informed consent was obtained from each of the study participants. Patients younger than 18 and older than 40 years of age, illiterate patients, and patients suffering from other medical or psychiatric disorders as well as individuals with secondary epilepsy were not included in the study. In this study, the Beck questionnaires (with more emphasis on the cognitive and the behavioral aspects) consisting of 21 items of multiple-choice questions with increasing severity of depression (from A-D) were given to the patients and they were asked to answer the questions independently (self-report). The Beck Depression Inventory (BDI) is perhaps the best known and widely used self-report measure of depression. We used, in this study, the Persian-language version of the Beck Depression Inventory-second edition (BDI-II) standardized by Ghassemzadeh and his colleagues in Iran.<sup>3</sup> The methodology for the Iranian population so as not to include false positives was used, and the following scores obtained: 0-15 normal, 16-30 mild depression, 31-46 moderate depression, and 47-63 severe depression. The patients had to have at least a 6th grade elementary school education. Since the screening test was independent of socio-cultural factors and not related to any ethnic group, it could well be applied universally and amongst depressed patients.

Before completion of the Beck questionnaire another questionnaire with demographic information as well as information regarding duration of the illness, drug history, family history of mood disorder or epilepsy was distributed.

In this study, 97 epileptics were included. Thirty-seven were female and 60 were male. Among 97 patients, 50 obtained scores more than fifteen. These patients were categorized in 3 groups: 0-15 normal, 16-30 mild depression, and 31-46 moderate depression. None were included in the severe depression group according to the scores given. The 2 different groups of females and males were studied. Forty-eight percent of males and 53.5% of females were depressed according to the Beck criteria, which was not statistically significant ( $p>0.05$ ). Also, there was no significant difference between the age group 18-30 years and beyond ( $p>0.05$ ). There was no direct or significant relationship between depression and other variables such as chronology and duration of the illness (epilepsy), history of epilepsy, or family history of mood disorder, family, and marital history, and the dose of medication given ( $p>0.05$  in all measured parameters). Patients were classified into 2 groups according to the residential area: Those who lived in Tehran, and the rest who lived in small cities or in villages. There was a noticeable difference ( $p=0.0351$ ), with a 46.8% rate of depression observed among patients living in Tehran, and a rate of 73.7% in those living outside Tehran. Considering the degree of education, they were also divided into 2 groups; those with an educational level below 12th grade, and others with higher educational levels. In the lower education group, the rate of depression was 64.9%, while among the higher education group the rate of depression was 42.4%, a significant difference ( $p=0.037$ ). From an economic point of view, there was a significant difference ( $p=0.048$ ) between the people whose expenses were equal or less than their income compared to the people who had income less than that of expenses.

According to this study, 51.6% of the patients were depressed, which is indicative of a high rate of depression in epileptics compared to the general population, in which it is 10-15% in females and 5-12% in males. Regarding the relation of epilepsy with gender, different studies were carried out yielding different results. In one study no significant relation was found between the demographic factors (namely, level of education, IQ, and epilepsy related factors, onset of the illness, duration of epilepsy, family history of any psychiatric illnesses) with depression.<sup>4</sup> Our study in contrary to the other, showed no correlation between depression and mono or poly-therapy of epilepsy. In this study the high incidence of depression among epileptics was confirmed according to the Beck test and since depression is a

treatable disease, timely screening and treatment of depression in these patients is mandatory and will bring about positive individual, familial, social, and economic outcomes. Epileptic patients may experience some forms of psychological dysfunction (including depression) in comparison to other medical patients. Seizures affect patients' quality of life, and they may feel social rejection and stigmatization from others due to the beliefs lay people hold about epilepsy.<sup>5</sup> An epileptic patient does not merely consist of nerves and muscles, but he or she is a human being whose health will be established through the integrity and interactions of each organ system including mind and body with community and socio-cultural aspects of life. This study had some limitations such as the lack of control group, no clinical interview with the patients and due to the above limitations the objectives of the study were compared with similar studies as well as the studies on the incidence of epilepsy in the normal population. The findings did not have a noticeable discrepancy with other ongoing cohort studies. The study could not be considered as a representative for all samples; thus implementing a multi-centric study may solve this problem. In addition, we neither assessed the types of

medications nor the potential polytherapy, which would better be considered in future studies.

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## SUPPLEMENTS

- \* Supplements will be considered for work including proceedings of conferences or subject matter covering an important topic
- \* Material can be in the form of original work or abstracts.
- \* Material in supplements will be for the purpose of teaching rather than research.
- \* The Guest Editor will ensure that the financial cost of production of the supplement is covered.
- \* Supplements will be distributed with the regular issue of the journal but further copies can be ordered upon request.
- \* Material will be made available on the Neurosciences website