The Impact of a Short Depression and Anxiety Screening Tool in Epilepsy Care in Primary Health Care Settings in Zambia

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Abstract.   Up to 60% of the 50 million persons with epilepsy (PWE) worldwide have depression and anxiety and 80% of PWE live in low-income regions. Common psychiatric comorbidities are often unrecognized and undertreated. We developed and validated a 10-item screening tool for the detection of depression and anxiety at primary healthcare clinics in Zambia in which the baseline detection rate among PWE was 1%. We trained primary care clinic workers in selected clinics to use this screening tool. A retrospective chart review was conducted for 120 consecutive PWE who received care one month after training. Detection improved from 1% to 49%, and treatment was frequently initiated. Of the 120 screened, 59 (49.2%) scored above cutoff point of 18. Of these persons, 43 (73.0%) were positive for depression, 16 (23.0%) were positive for anxiety, 38 (64.4%) received counseling, 18 (30.5%) received antidepressants, and 3 (5.1%) were referred to a psychiatrist. Use of this screening tool resulted in improved mental health care for PWE.

INTRODUCTION

Persons with epilepsy (PWE) show an increase in generalized anxiety disorder, depression, and suicidal tendencies compared with a general population without epilepsy.[1] In addition, the suicide risk in persons with epilepsy is increased even in the absence of mental illness.[2] Nowhere are the barriers to recognizing and treating comorbid psychiatric conditions in PWE more challenging than in the public health sector of sub-Saharan Africa, in which most epilepsy care services are provided by busy primary healthcare (PHC) workers with limited training in epilepsy and psychiatry. For example, in 2009, the rate of attendance for monthly reviews by PWE at the Chainama outpatient clinic in Zambia (a primary care setting responsible for running epilepsy and other clinical services for psychiatric patients) had increased over five years (Clinic Records Department) from 156 in 2004 to 2,301 in 2008 with no increase of staff. A previous retrospective chart review of 5% (n = 200) of registered PWE receiving care from the Chainama outpatient and Kanyama clinics during 2009–2011 indicated that only 1% of the sample were given a diagnosis and/or treated for depression and/or anxiety.

Because most available instruments are too long to use in the busy general primary care settings in developing countries and of cultural and language orientations problems, we developed and validated a short screening tool for depression and anxiety among PWE at PHC settings in Zambia. This screening tool (Supplemental Table 1) has 10 items intended to detect depression and/or anxiety and was shown in a previous report to have a Cronbach Alpha of 0.77 and an inter-rater reliability (kappa) of 0.85.[3] According to Birbeck and Kalichi,[4] it is estimated that there are 170,000–256,000 PWE (15–22 cases/1,000 persons) in Zambia requiring urgent treatment. This is a high rate when compared with those for developed countries. For instance, in North America, overall epilepsy incidence is approximately 50 cases/100,000/year, and is highest for children less than five years of age and the elderly.[5] In

Zambia and many other developing countries, most epilepsy treatment is delivered by PHC workers who have had limited training or experience in the diagnosis and management of anxiety and depression in PWE.[6] The aim of this study was to evaluate the impact on the identification and treatment of comorbidities of epilepsy of a locally developed short screening tool for detecting depression and/or anxiety in PWE.

MATERIALS AND METHODS

Implementation. The PHC workers involved in routine care of PWE were recruited from five selected health centers in Lusaka, Zambia. They were given skills on administering the screening tool, and scoring and interpreting results of the screening tool. They were also instructed in how to score the choices of PWE and given guidelines on the score threshold for them to make informed decisions on anxiety disorder or depression. Trainees were given 16 hardcopies of the screening tool for each of their clinics.

Evaluating the impact of the screening tool. One month after receiving training, a chart abstraction of 120 PWE seen at these PHC clinics was undertaken to assess screening and treatment rates. The PHC workers in the clinic were not aware of the plans for follow-up evaluations or the timeline in which this would occur. The details are outlined in the Data abstraction and analysis section.

Ethical considerations. Ethical approval was obtained from the University of Kwazulu-Natal, University of Zambia Biomedical Ethics Committee, and the Michigan State University Biomedical Institutional Review Board.

Data abstraction and analysis. We used the same abstraction tool as was used to determine the baseline rate of the detection for depression and/or anxiety (Mbewe E and others, *Epilepsy Behav* 2013 May;27(2):296–300). The abstraction tool focused on file number, sex, age, level of education, marital status, reference in patient notes to depression or anxiety or any common signs and symptoms of these conditions, related treatment, any established diagnosis of depression and/or anxiety, and any other diagnoses or treatment. Depressive and/or anxiety symptoms included loss of sleep, loss of appetite, weight loss and body pains (for depression) and palpitations, dizziness, headache, confusion, and lack of concentration (for anxiety).

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Data were reviewed for completeness and correctness. Data were then entered into Epi-Info software version 3.5.1 (Centers for Disease Control and Prevention, Atlanta, GA) by using the enter data program and descriptive statistics using frequencies, means, and SDs. For continuous data, mean and SD were used in the interpretation of statistical results.

RESULTS

One hundred twenty files of PWE seen for their routine reviews were examined. There were 80 charts containing copies of the screening tool, and the remaining 40 had aspects of clinical details regarding depression and anxiety drawn from the screening tool. It was evident that PHC workers had asked questions regarding sleep, appetite, suicidal ideas, feeling guilt, heart palpitations, and lack of concentration for all persons. Among patients whose charts were abstracted, the mean (SD) ages in years for males and females were 31.3 (12.1) and 32.1 (8.2), respectively. In 119 (99%) of the 120 files, there was evidence of screening for psychiatric comorbidities of depression and/or anxiety.

Of the 120 PWE who were screened, 59 (49.2%) scored above the cutoff point of 18. Of these persons, 43 (73%) were positive for depression and 16 (27%) were positive for anxiety. Of these persons, 38 (64.4%) received counseling sessions, 18 (30.5%) were given antidepressants, and 3 (5.1%) were referred to a psychiatrist for further interventions. Sixty-one (50.8%) were negative for depression and/or anxiety.

DISCUSSION

The availability of a brief screening tool improved the detection and treatment rates for depression and/or anxiety among PWE seeking care at PHC settings in Zambia (from 1% to 49%). Zambia has a critical shortage of qualified psychiatrists and a population of approximately 13 million persons according to the Zambia Demographic Health Survey.[7] The training of comprehensive outpatient providers and registered mental nurses is aimed at compensating the absence of psychiatrists and to offer clinical psychiatry services at PHC level. Sokhela and Uys[8] demonstrated that when human resource in PHC settings is given the appropriate targeted education, the results of improved service delivery in community psychiatry/mental health can be realistically encouraging.

The results also indicate that most patients were supported by counseling (64% of the identified patients) and only three were referred to a psychiatrist. It would therefore seem that screening does not unduly increase the work load of the specialist health professional, but significantly increases the support of the patients. A follow-up study to evaluate the client satisfaction after implementation of the screening tool would also offer insights into the tool's broader value.

The screening indicated a prevalence of 29% of anxiety and depression in PWE. A study by Lopez-Gomez and others[9] found that 38.8% of PWE had symptoms of anxiety. Rai and others[1] found that general anxiety disorders were the most common anxiety disorder: 12.5% of persons with epilepsy

reported this condition. Among persons in Canada, PWE are more likely to report lifetime anxiety disorders or suicidal thoughts (odds ratios = 2.4 and 2.2), respectively.

It should be noted that this tool is not specific and should be further refined and tested. We conclude that despite the weakness in the sensitivity of the screening tool, there was marked improvement in the detection rate of depression and anxiety in PWE among the PHC workers. The tool needs further refining before rolling it out across the nation. The impact assessment was done only once quite shortly after the training. Further studies should be done after six months and one year to establish how often PHC workers should be reminded about use of the screening tool to maintain this level of use.

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