DEVELOPMENT AND VALIDATION OF A SCREENING INSTRUMENT FOR BIPOLAR SPECTRUM DISORDER: THE URDU VERSION OF SIMS SCREENING INSTRUMENT FOR BIPOLAR SPECTRUM DISORDERS (SIBD)

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ABSTRACT

Objective: To develop and validate a new screening instrument in Urdu language for bipolar spectrum disorders in patients presenting to tertiary care center. This instrument is called the Services Institute Medical Sciences screening instruments for bipolar spectrum disorders (SIBD).

Design: It was quasi-experimental study.

Place and Duration of Study: Department of Psychiatry, Services Institute of Medical Sciences and Services hospital, Lahore. January 2006 to November 2006.

Subjects and Method: A total of 200 patients attending outpatient and in-patient facilities of Psychiatry Department, Services hospital, Lahore suffering from mood disorders completed the SIBD. A research professional, blind to the SIBD results, conducted a semi structured interview using DSM – IV diagnostic criteria for the diagnosis of bipolar disorder.

Results: SIBD with a screening score of 30 or positive responses to at least 7 items yielded good sensitivity (0.73) and very good specificity (0.90).

Conclusions: The SIBD is a useful screening instrument for bipolar spectrum disorder to be used in clinical practice in tertiary care centers initially.

INTRODUCTION

Bipolar disorder (BD) is a mood disorder with mania as its hallmark[1]. In the current official classifications, Diagnostic and Statistical Manual-IV of the American Psychiatric Association (DSMIV)[2] and ICD-10[3], at least two subtypes are distinguished namely Bipolar – I and Bipolar – II.

Until recently it was believed that the lifetime prevalence of bipolar disorder is approximately 1%[4,5,6]. New data from both epidemiological and clinical research are beginning to provide evidence for a higher prevalence of up to 5%. The increase in prevalence rate however, is accounted by "softer experiences" within the bipolar spectrum[7]. Bipolar spectrum disorder has been described and defined in several ways[8,9], but it usually includes bipolar I, bipolar II, cyclothymia, and bipolar disorder not otherwise specified. The lifetime prevalence of bipolar spectrum disorder has been found to be between 2.6% and 6.5%[10,11], which is similar to that of drug abuse (4.4%) and many anxiety disorders[12.13,14].

Bipolar type I disorder, the most classic form, is characterized by a succession of manic or mixed states, with depressive episodes. In bipolar type II disorder, depression dominates the course and alternates with hypomania. Bipolar disorders can be seen as having 3 distinct phases: the *depressed phase*, which mimics the clinical picture of major depression (lower pole), the *manic* or *hypomanic phase* (upper pole), and *euthymia*, or the asymptomatic phase[15]. Manic and hypomanic episodes are characterized by grandiosity, inflated self-esteem, diminished need for sleep, increased goal-directed activity, and talkativeness[16]. Mania and hypomania are distinguished by the fact that mania is of longer duration, causes more functional impairment, and may be associated with psychotic features[17]. Sometimes patients present with mixed episodes, in which patients experience both manic and depressive symptoms, with associated severe functional impairment. It is important to note that for a diagnosis of bipolar I disorder, only one lifetime manic or mixed episode is required[4]. For a diagnosis of bipolar II disorder, the manual specifies that at least one hypomanic and one depressive episode occur in the absence of manic or mixed episodes[17].

A notable exception has been the work of J. Sloan Manning in Tennessee, who reported that 26% of patients presenting with depression in his family practice setting

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had bipolar disorder[18]. This prevalence is similar to that reported in the psychiatric specialty care settings. In a study conducted in France by Hantouche et al,[19] the rate of bipolar disorder in a population of patients presenting with a major depressive episode was 28%. In a study conducted in a private psychiatric practice in northern Italy, Benazzi[20,21] found that 49% of the outpatients presenting with depression had bipolar spectrum disorder.

Distinguishing between major depressive (unipolar) disorder and bipolar disorders, especially the depressive phase of bipolar disorders, is extremely important before instituting treatment for depression[22,23]. "Unipolar" depression is characterized by a single mood pole, that of major depression, and fulfills specific defined criteria[24].

Unfortunately, bipolar spectrum disorders often go unrecognized and undiagnosed[25,26,27,28], largely because of the wide range of symptoms seen in patients with bipolar spectrum disorder, including impulsive behavior, alcohol and substance abuse, fluctuations in energy level, and legal problems. These symptoms are often attributed to problems other than bipolar disorder. The consequences of delayed diagnoses or misdiagnoses can be devastating.

One method of increasing recognition of an illness is to screen for it at primary care level and in general population. Although several screening instruments exist for a variety of psychiatric disorders, none exist to screen for bipolar spectrum disorder in our setup. This article describes the development and validation of a brief and easy-to-use screening instrument in Urdu language for bipolar spectrum disorder called the Services Institute Medical Sciences screening instrument for Bipolar spectrum disorders (SIBD).

The Instrument

The SIBD is a self-report, two-page, paper-and-pencil inventory that can be quickly and easily scored by a physician, nurse, or any trained medical staff assistant. The SIBD is designed to identify bipolar spectrum disorders. It focuses on breaks in normal functioning as well as life long traits. It is not intended to detect illnesses like schizophrenia and depression with psychotic symptoms, although SIBD is designed to identify bipolar spectrum disorders but its scoring pattern may also show the severity of underlying illness.

SIBD includes 20 items derived from the DSM-IV[2], ICD-10[3] criteria and clinical experience. These items were translated to Urdu language by seven translators independently. These translators were all bilingual and had minimum education of graduation. These were school teacher, college lecturer, advocate, businessman, clinical psychologist, pharmacist and a physician. Hence each item had seven translated versions. Each item with its seven translated versions was examined thoroughly by a committee of three assessors who finalized the best translated version of each item. Each item was scored on likert scoring scale with a range of 0-5, where 0 means not at all, 1 means just a little, 2 means somewhat, 3 moderately, 4 quite a lot and 5 means very much. These questions are randomized so that four categories; Mania, hypomania and depression and long standing traits have equal chances to be responded.

The original version of the SIBD was administered to a convenience group of bipolar 25 patients to assess feasibility and face validity. The items were then revised on the basis of this experience.

The present study was designed to determine the optimal symptom threshold for identifying bipolar spectrum disorder and to assess the sensitivity and specificity of this threshold by using a professional mental health diagnosis on the basis of DSM-IV[2] of bipolar spectrum disorder as the criterion standard.

SUBJECTS AND METHODS

The study was conducted at Department of Psychiatry, Services hospital and Services Institute of Medical Sciences at both in-patient and out-patient level. The protocol was approved by the institutional review board at each site. Signed informed consent was obtained from each subject. Two hundred patients suffering from Bipolar disorder were included in the study.

Inclusion criteria: All patients presenting to the Department and on preliminary evaluation assessed to be suffering from any of the Bipolar disorders according to DSM IV[2], who are 18-65 years.

Exclusion criteria: If the patients are suffering from any other psychiatric morbidity, drug abuse, organic brain syndromes and are not fulfilling the criteria of any of the bipolar disorders are excluded from the study.

Patients being seen for treatment were asked to complete the SIBD. Later patients were interviewed on the basis of semi-structured interview derived from DSM-IV[2] diagnostic criteria for Bipolar disorders by a researcher blind to the results of SIBD to obtain a diagnosis of bipolar spectrum disorder (including bipolar I, bipolar II, and bipolar disorder not otherwise specified, cyclothymia and personality problems). The patients who were illiterate were read the questionnaire by the clinical staff.

Data for the clinical diagnosed subjects were analyzed with SPSS 10.0 for Windows (SPSS, Inc., Chicago). A scoring algorithm calculated the number of symptom items scored 0-100 (range=0–100). In order to screen positively for bipolar spectrum disorder, in addition to a threshold number of symptom items, the respondent had to check "scores" for the items asking if the symptoms clustered in the same time period and had to indicate that the symptoms caused either "0" or "5" problems. Sensitivity and specificity for each possible SIBD score were plotted by using results from the semi-structured

interview as the standard. Sensitivity (percent of criterion standard diagnoses correctly diagnosed by the SIBD) and specificity (percent of criterion standard non-cases correctly identified as non-cases by the SIBD) for various symptom threshold cutoff scores were calculated in order to determine the optimal screen threshold.

RESULTS

A group of 200 subjects received the semi-structured interview. A total of 63% of the subjects were female. The mean age was 44 years (SD=13, range=18–80). A total of 86% had an education of high school level or higher. A total of 90% of the subjects were rural, and 9% were from urban background.

A semi-structured interview diagnosis of bipolar spectrum disorder (bipolar I: N=70, bipolar II: N=26, and bipolar disorder not otherwise specified: N=15, and for cyclothymia was given to 89 of the 200 patients. The frequency of endorsement of SIBD items ranged from 34.2% to 77.2% (the highest item endorsements were "easily distracted," "racing thoughts "and" irritability"). A Cronbach's alpha coefficient of 0.90 was achieved for the SIBD. Individual item correlations with total score on the SIBD ranged from 0.50 to 0.75.

Figure 1 presents the sensitivity and the specificity for various threshold cutoffs of the total score. A SIBD screening 7 positive items or more was chosen as the optimal cutoff, as it provided good sensitivity (0.73, 95% confidence interval [CI]=0.65–0.81) and very good specificity (0.90, 95% CI=0.84–0.96). Higher threshold cutoffs resulted in a loss of sensitivity without an appreciable increase in specificity; lower threshold cutoffs resulted in considerable loss of specificity. By using this cut off score 30 -or-more-item threshold or seven positive items, seven out of 10 people with a bipolar spectrum disorder would be correctly identified by the SIBD, whereas nine out of 10 of those who did not have a bipolar spectrum disorder would be successfully screened out.

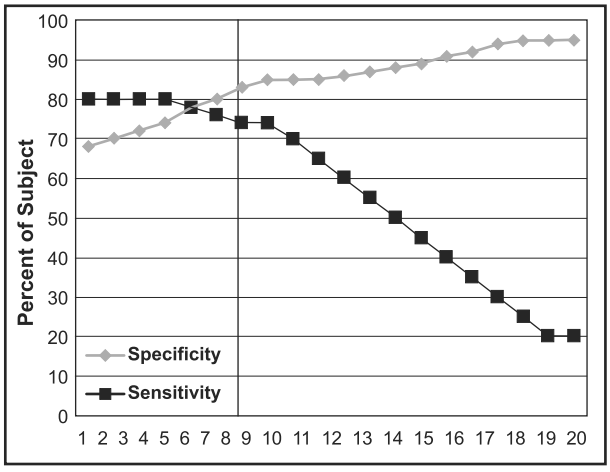

Fig. 1: Operating Characteristics of the SIBD for Various Threshold Scores among 200 Patients attending out-door and in-door facility.

DISCUSSION

This study assessed the sensitivity and specificity of a brief, self-rated screening instrument for bipolar spectrum disorder by using a research diagnostic interview based on DSM – IV[2] diagnostic criteria for mood disorder as the gold standard for diagnosis in a psychiatric population in tertiary care center. The operating characteristics of the SIBD are quite good and are comparable to those of other instruments that are used to screen for other psychiatric disorders. Mulrow et al.[19,27] reviewed 18 studies using nine different screening instruments for depression in primary care settings. The sensitivities and specificities of the instruments ranged from 0.67 to 0.99 (mean=0.84) and from 0.40 to 0.95 (mean=0.72), respectively. The SIBD's sensitivity of 0.73 and specificity of 0.90 compare well with the accuracy of these other instruments.

This instrument was not compared with any other Bipolar instrument in Pakistan as to our knowledge no specific questionnaire is available in Urdu language for the screening of Bipolar Disorders, moreover the instruments available in English and other languages have much of the cultural and languages differences to be compared with this instrument.

CONCLUSION

Sims Instrument for Bipolar Disorders (SIBD) is a reliable and validated instrument that can be used to screen the bipolar spectrum disorders in our tertiary care settings. Further research is needed to assess whether the SIBD would be useful in primary care, community agencies, and other psychiatric settings to identify individuals who might benefit from a comprehensive diagnostic evaluation.

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