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Short Communication

Intensity of sub-syndromal anxiety symptoms in euthymic patients with bipolar disorder: A cross-sectional study

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ABSTRACT

Background & Objectives: Evidence suggests that while the mood state improves and the patients achieve symptom recovery due to sub-syndrome anxiety symptoms functional recovery continues to be impaired and many of them don't return to pre-morbid levels of functioning. This study was undertaken because such deficits are predictive of challenges in case management, treatment outcome.

Materials and Methods: The cases were 40 consecutive euthymic bipolar patients who presented at OPD of Mental Hospital, Lagankhel. Equal number of matched controls were included in the study. Information regarding socio-demographic and clinical variables of study subjects was obtained through a semi-structured, self-designed questionnaire. Intensity of anxiety symptoms was assessed by the 21 Item Beck Anxiety Inventory.

Results: In both the study groups, there was no significant difference in age, gender, marital status, residence, occupation and education. Regarding socioeconomic status, more individual in the normal healthy group were of middle socio-economic class (53%) compared to cases of euthymic BPAD (35%) group which were more of the low socio-economic class (65%). Intensity of Anxiety symptoms in the case group was significantly different from control group, suggesting some degree of persistent sub-syndromal anxiety symptoms in euthymic period.

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Conclusions: This study identified intensity of anxiety in euthymic patients of bipolar disorder. It would appear that even though the impact of medication upon generation of anxiety symptoms has yet to be fully elucidated, it is unlikely that medication factor fully account for that.

Keywords: Euthymic Bipolar patients, sub-syndromal anxiety symptoms.

INTRODUCTION

Bipolar disorder is frequently debilitating illness. The lifetime prevalence of bipolar disorder is estimated to be in between 1.0 to 1.6% in the adult population and occasionally it has been estimated to be as high as 5% [1]. Evidence suggests that while the mood state improves and the patients achieve symptom recovery, functional recovery continues to be impaired and as many as 32% of patients don't return to pre-morbid levels of functioning due to many factors such as Neuro-cognitive deficits and sub threshold anxiety symptoms [2,3]. The presence of anxiety in bipolar patients leads to poor remission [3]. Anxiety disorders are common prevalent disorders in bipolar disorder patients, with lifetime prevalence at above 40% [4]. Even the symptoms of anxiety that do not meet the criteria for disorder can affect the response of treatment and remission in BD patients [5]. Thus, the aim of this study was to determine the intensity of sub-threshold anxiety symptoms in euthymic bipolar patients.

MATERIALS AND METHODS

A descriptive cross-sectional analytical study was carried out in Mental Hospital, Lagankhel, Lalitpur from January 2016 to December 2016 after obtaining ethical approval from Institutional Review Board-National Academy of Medical Sciences. Written informed consent was obtained From patient and controls for enrollment. Sample size was calculated by using formula N=Z 2 pq/d 2 where Z=1.96 taken at 95% Confidence interval; prevalence of problem, p=33%; q=1-p=67% and Margin of error, d=15%. Adjusting cases lost to follow up as 5%, total 40 Sample sizes were taken. Convenient sampling method was opted due to high feasibility of available participants. First forty people stabilized on Medication of age 20 to 60 years with DSM-5 diagnosis of bipolar affective disorder were recruited from outpatient department. Patients taking benzodiazepines; patients with any other co-morbid psychiatric, medical or neurological conditions; patient with history of co-morbid substance use were excluded from the study. Euthymia was defined as score of < 7 on the 17-item Hamilton Depression Rating Scale (HAMD17) 7 and a score of < 7 on the Young Mania Rating Scale (YMRS) on the day of study [6]. For the control group, 40 people matched on individual basis with euthymic bipolar patients for age, gender and years of education were recruited from non relative friends of the patient, staffs working at the mental hospital or students volunteering at the mental hospital with no current or past history of any Psychiatric disorder. Absence of psychopathology was concluded after evaluation from two consultant psychiatrists and if agreed that the control subject is free from any psychiatric morbidity. Controls were excluded if they had past history of psychiatric illness, family history of affective and or psychotic disorders in the first-degree relatives, had history of traumatic brain injury or any other medical or neurological condition and/or history of psychoactive

substance use. A semi structured self-designed questionnaire was suitably designed after 10% of respondents pretesting to collect information regarding the demographic variables in both groups. Assessment of socioeconomic status was done by using Kuppuswamy's socioeconomic status scale for Nepal [7]. Intensity of anxiety symptoms as measured using 21 Item Beck Anxiety Inventory [8]. The task was given in same order to whole sample. Statistical analysis was conducted using the statistical package for social sciences, version 20.0.

RESULTS

Table 1 shows the majority of participants in both groups were aged 20–29 years (38%), followed by 30–39 years (28%) and 40–49 years (28%), while only 8% were in the 50–59 years category. There was no statistically significant difference between the two groups (χ^2 = 0.000, p = 1.000), indicating that cases and controls were perfectly matched by age.

Table 2 depicts the distribution of anxiety intensity differed notably between euthymic bipolar cases and healthy controls. In the case group, anxiety scores were generally higher, with most participants scoring 8 (35%), followed by 6 and 10 (25% each), and 12 (15%). In contrast, the control group showed predominantly lower anxiety scores, with the majority scoring 4 (35%), 6 (32.5%), and 2 (22.5%), while very few had higher scores (only 10% scored 8, and none scored 10 or 12). Overall, anxiety severity was greater among euthymic bipolar patients compared to controls.

Table 3 indicate that the mean intensity of anxiety symptoms (BAI score) was significantly higher in the euthymic bipolar case group (mean = 8.60 ± 1.02) compared to the control group (mean = 4.60 ± 0.94). The difference between the two groups was statistically highly significant (t = 9.134, p <

Table-1: Age group distribution of euthymic bipolar cases and control

	Case		**Control**		**Chi-square**	***p*-value**
Age group	**Number**	**Percent**	**Number**	**Percent**		
20-29	15	38	15	38		
30-39	11	28	11	28	0.000	1.000
40-49	11	28	11	28		
50-59	3	8	3	8		
Total	40	100	40	100		

Table 2: Intensity of Anxiety symptoms in both euthymic bipolar and healthy control group

	Case		**Control**	
Intensity of Anxiety symptoms [BAI- 21 Item score in numbers]	**Number**	**Percent**	**Number**	**Percent**
2	0	0	9	22.5
4	0	0	14	35
6	10	25	13	32.5
8	14	35	4	10
10	10	25	0	0
12	6	15	0	0
Total	40	100	40	100

Table 3: Significance of Intensity of Anxiety symptoms in the euthymic bipolar case and control group

Characteristic	Case		Control		*t*-stat	*p*-value
	Mean	SD	Mean	SD		
Intensity of Anxiety symptoms [BAI score] **	8.60	1.02	4.60	0.94	9.134	<0.001

**The mean BAI score of the case and control groups are significantly different (p<0.001

0.001), indicating that euthymic bipolar patients experience greater anxiety symptoms than healthy controls.

DISCUSSION

In this study among 40 consecutive euthymic bipolar cases 55% were male and 45% were female, revealing male preponderance with male to female ratio being 1.22:1. This finding is consistent with other studies [9]. This may also indicate that men are brought to hospital for treatment more often than female. One more factor is that female are more likely to be affected more by depressive/mixed episode and more often have a seasonal pattern of the mood disturbance which may not come easily to attention of attendants. In this study 65% of the cases were married, 30% were unmarried and 5% were separated from spouse. The relationship between marital status and mood disorder is complex. Being single or divorced can either be a risk factor for future episodes. On the other hand, the rate of family breakdown increases in patients of BPAD. In this study the maximum number of patients (65%) were from low socioeconomic status followed by 35% from middle socio-economic status and none were from the high socio-economic status. This may be because of the tendency of the people from the low socio-economic status presenting commonly at this hospital. This was in contrast to the finding by Shah BN et al., in which most of the patients were from middle socio-economic status [10]. The relationship between the socio-economic status and mood disorder is complex. However, the cause and effect may be reversed. BPAD can lead to unemployment, low income, divorce, resulting in the regression on socio-economic status. The mean age of sample in this study was 33.75 years and majority of them were within the age range of 20-29 years. Earlier studies have shown that the mean age of onset for BPAD is 30 years [9]. Thus, the maximum number of cases in this study did fall within this age group. Majority of the cases have attained education up to the secondary level. This contradicts with other studies, as other studies have shown the higher mean years of formal education in euthymic bipolar patients[10].This may be due to the fact that the majority of cases in this study belonged to the lower socioeconomic status which might have limited the access to school and more than 40% of cases had age of onset below 20 years of age which may have halted their education and thus resulted in lower mean education levels. The intensity of anxiety symptoms in the case group was significantly different from control group despite the narrow inclusion criteria defined for inclusion in this study. Hence some degree of persistent sub-clinical anxiety symptoms is associated in the euthymic period, a finding similar to other studies [11,12]. Variants of

genes involved in neural development, increased activation of amygdala and neurotransmitter transport are shared between mood disorders and anxiety conditions [12].

CONCLUSIONS

Euthymic bipolar patients had higher anxiety levels than healthy controls, shown by higher BAI scores. This shows that anxiety can still be present even when bipolar patients are in a stable (euthymic) phase, so it should be checked regularly.

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