Co-Morbid Medical Disorders in First Degree Relatives of Probands With Bipolar Mood Disorder

Asif Kamal*, Jalaluddin Rumi**, Naveed Gani*,
*Department of Psychiatry Yusra Medical and Dental College, Rawalpindi; **Department of Psychiatry, Bolan Medical College, Quetta

Abstract

Background: To determine the frequency of co morbid medical disorders in the first degree relatives (FDRs) of probands with bipolar mood disorder.

Methods: In this descriptive study one hundred bipolar probands were consecutively recruited using ICD-10 diagnostic criteria for Bipolar mood disorder, and Urdu version of Present State Examination (PSE). Having recorded basic socio demographic details, co morbid medical disorders in total of 300 first degree relatives were collected by using Family History - Research Diagnostic Criteria and transferred on Performa for statistical analysis.

Results: Out of the 300 first degree relatives of bipolar probands, 28.7% had medical co morbidities, while 71.3% had no co morbidity. Migraine was the commonest co morbidity observed in 15% first degree relatives, followed by Hypertension in 9%, diabetes mellitus in 7% and epilepsy in 3% first degree relatives.

Conclusion: Co-morbid medical disorders like hypertension, diabetes mellitus type 2, epilepsy and migraine were found amongst the first degree relatives of bipolar probands.

Key Words: bipolar disorder, familial aggregation

Introduction

Bipolar disorder is a chronic mental illness with a reported prevalence of 1% to 5%. It is among the leading causes of disability worldwide because of its substantial neuropsychiatric and social effects and medical comorbidities. Medical comorbidities are overrepresented in individuals with bipolar disorder, including, but not limited to, cardiovascular conditions, autoimmune diseases, cancer, and metabolic disorders. Overweight/obesity, metabolic syndrome, and type 2 diabetes mellitus are highly prevalent in individuals with bipolar disorder. Evidence from epidemiological studies indicates that medical comorbidities are responsible for significant morbidity and early mortality.

Results from studies indicate that metabolic comorbidities modify and complicate the clinical presentation of bipolar disorder. Metabolic comorbidities are associated with a more chronic and severe course of illness, as well as resistance to pharmacological treatment. Co-occurrence of obesity or type 2 diabetes mellitus and bipolar disorder has been suggested to contribute to cognitive dysfunction, a core feature of bipolar disorder and a principal mediator of functional disability, highlighting the clinical relevance of this association. Evidence suggests that amongst individuals with Bipolar mood disorder, the most common general medical comorbidities are migraine, thyroid illness, obesity, type 2 diabetes, and cardiovascular disease. McIntyre RS et al in their study found that individuals with Bipolar mood disorder were differentially affected with medical disorders notably hypertension (10.7%), asthma (6.1%), diabetes mellitus (4.3%), HIV infection (2.8%) and hepatitis C (1.9%). The high prevalence and substantial impact of medical comorbidities on the clinical outcome in bipolar disorder underscore the need for prioritizing the management of metabolic health in this clinical population.

Patients and Methods

This cross sectional study was conducted at the Department of Psychiatry, Postgraduate Medical Centre (JPMC), Karachi, for a period of 6 months from May 2006 till November 2006. The total sample was 100 patients who were consecutively recruited including patients of both gender aged 15 years and above, diagnosed with Bipolar mood disorder through semi-structured interviews based on ICD-10 diagnostic criteria for Bipolar mood disorder. Patients with severe cognitive impairment, with history of central nervous system disorders i.e. temporal lobe epilepsy, and with acute, severe disturbance of behavior were excluded.

A total of 300 first degree relatives of probands with Bipolar mood disorder, who agreed to participate in the study, were inducted, having obtained informed written consent. The selected participants were
administered Family History- Research Diagnostic Criteria (FH-RDC), to screen them for medical comorbidities like Diabetes Mellitus, Hypertension, migraine, metabolic syndrome and epilepsy.

**Results**

The mean age of the bipolar probands was 34.74 ± S.D 8.21 years with an age range of 24-60 years. Amongst the first degree relatives of bipolar probands, the gender distribution amongst those diagnosed with psychiatric disorders revealed that there were 41 (13.7%) females and 62 (20.7%) males, with a male:female ratio of 1.5:1. Amongst the 300 first degree relatives of bipolar probands, 88 (28.7%) had medical co-morbidities. While 214 (71.3%) had no co-morbidity. Migraine was the commonest co-morbidity observed in 45 (15%) first degree relatives, followed by Hypertension in 27 (9%), Diabetes Mellitus in 21 (7%) and epilepsy in 9 (3%) first degree relatives. (Table 1)

**Table 1 : Medical co morbidities in first degree relatives of bipolar probands (n=300)**

<table>
<thead>
<tr>
<th>Co-morbidities</th>
<th>Number</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migraine</td>
<td>45</td>
<td>15</td>
</tr>
<tr>
<td>Hypertension</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

**Discussion**

In the current study, a group of medical disorders in the first degree relatives of bipolar probands was collected through FH-RDC from the information provided by the proband. The main purpose was the identification of any medical disorder present in the first degree relatives of the bipolar probands. This study revealed that the overall frequency of type 2 diabetes mellitus in first degree relatives of bipolar probands was 9%, which is a significantly higher rate compared to one of the local studies which found that in a general male population, the overall frequency of type 2 diabetes mellitus was 6% and for females, 3.5%. Though the exact mechanism of this co-morbidity is not very clear however likely possibilities include genetic associations or the effect of psychotropic medication.

Metabolic syndromes were highly prevalent among patients with patients with bipolar disorder. Regnold WT et al reported that abnormal glucose metabolism including Diabetes Mellitus Type 2 was common in psychiatric disorders and the rate of Diabetes Mellitus Type 2 was 26% in Bipolar mood disorder. The current study revealed that 9% of the first degree relatives had hypertension as compared to the rates in general population i.e 10.7%. Malik R and Agha MA, found high prevalence rates in general population, in Punjab. First degree relatives of bipolar probands were found with high rates of migraine, 15%, which is in line with rates reported in the literature i.e 15.2%. 3% of the first degree relatives had been diagnosed with epilepsy which is a relatively much higher rate than the estimated rates (9.9 per 10,000) in general population of Pakistan.

**Conclusion**

1. There is a high frequency of co medical disorders like hypertension, diabetes mellitus type 2, epilepsy and migraine, amongst the first degree relatives of bipolar probands.
2. Screening and early treatment of these medical co-morbidities for better health related quality is required of life of the individuals concerned.

**References**