

## GENDER DIFFERENCE IN RESOLUTION OF MANIA

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### ABSTRACT

*Gender differences are being increasingly reported across psychiatric disorders. Females are known to be more at risk for developing unipolar depressive disorders. In bipolar disorder there is more dysphoria, rapid cycling and more number of depressive episodes in females. However studies on gender difference in resolution are scarce. This study was conducted in Central Institute of Psychiatry to assess the gender difference in resolution of mania. 24 males and 16 females were rated at day 0, 3, 7, 14, 21 & 28 on scale for Manic States. It was found that males settled faster than females, which was evident at day 14. The rate of resolution was more in males in the first week. Remission was also reached earlier by males.*

*Key words : Mania, resolution, gender difference*

Gender differences in psychiatric disorders have been well documented. It has been seen that in schizophrenia, women have a better premorbid and current sexual functioning than males (Salokangas, 1983). They have a later age of onset, more benign course and a more positive outcome (Loranger, 1984; Goldstein, 1988; Salokangas, 1983). They also have less negative symptoms and display less aggression (Goldstein, 1988). Anxiety disorders, phobias and panic disorders are also reported to be more prevalent in females while males have been found to have higher rates of substance use disorders (Kessler et al., 1994; Regier et al., 1988).

When we concentrate on mood disorders, we find that unipolar depression is twice more common in females (Kessler et al., 1993). It has also been reported that in depression, women have a greater number of symptoms and more frequent episodes than men (Hamilton et al., 1996).

Four possible gender differences in the course of bipolar illness have been suggested in the literature. These are : (i) women are more likely to develop rapid cycling (f:m=3:1); (ii)

bipolar women are more likely to experience episodes of depression; (iii) bipolar women are more likely to experience dysphoric mania and (iv) women are more likely to develop the disorder at ages 45-49 years (Leibentuft, 1996).

However, there is a dearth of literature on the outcome of mood disorders across genders.

This study was therefore conducted to study the gender difference in the resolution of a manic episode.

### MATERIAL AND METHOD

This study was conducted in the Central Institute of Psychiatry (CIP), Ranchi. Patients who came to the CIP Out Patient Department formed the base from which the subjects for the present study were selected. The subjects were included in the study if they were diagnosed as having bipolar affective disorder, current episode mania and were admitted as inpatients for the current episode. The subjects were diagnosed using the criteria laid down in the Diagnostic and Statistical Manual 4<sup>th</sup> edition (DSM-IV) (APA, 1994).

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The subjects were excluded from the study if the diagnosis was either bipolar disorder due to general medical condition or bipolar disorder due to psychoactive substance use. They were also excluded if age was less than 18 years or greater than 45 years.

They were rated on the scale for manic states developed by Cassidy and colleagues (Cassidy et al., 1998). This is a 20-item scale and each item is rated along 6 points from 0 to 5 with anchor points provided for 1, 3 & 5. The rating scale was applied on the study population on days 0, 3, 7, 14, 21 & 28 of their inpatient stay. Five patients were rated separately at the beginning of the study by two members of the research team and the inter-rater reliability assessed.

The patients were put on parenteral antipsychotics (haloperidol 10 mg IM bd and promethazine 50 mg IM bd) for the first three to five days and later shifted to mood stabilisers and tapering doses of oral antipsychotics as required. Treatment was uncontrolled.

Statistical analyses were done using non parametric test while analysing the manic state scale to avoid the assumption of normal distribution of each item and the total of the scale in the sample.

## RESULTS

The interrater reliability was computed using weighted Kappa and the value obtained was 0.8527.

The total sample size was 40 and consisted of 24 males and 16 females. The male had a mean age of  $33.41 \pm 12.5$  while that of females was  $30.88 \pm 9.1$  ( $t=0.7$ ,  $d.f.=38$ ,  $p=0.49$ ). Past history of affective disorder was present in 30 patients of which 18 were male and 12 female (Chi-square test,  $p=ns$ ). Family history of bipolar disorder was present in 10 patients (7 males and 3 females), manic episode in 5 (2 male and 3 female), depressive disorder in 3 (2 males and 1 female) and other mental disorder in 2 (both females).

The total of the scale for manic states across gender at day 0 was  $44.67 \pm 7.85$  for males

and  $42.50 \pm 9.18$  for females (Mann Whitney test,  $p=0.5159$ ). The total at day 28 was  $2.08 \pm 4.08$  for males and  $9.48 \pm 11.34$  for females (Mann Whitney test,  $p=0.0059$ ).

The differences in the scale for manic states across gender between each subsequent pair of ratings is shown in table.

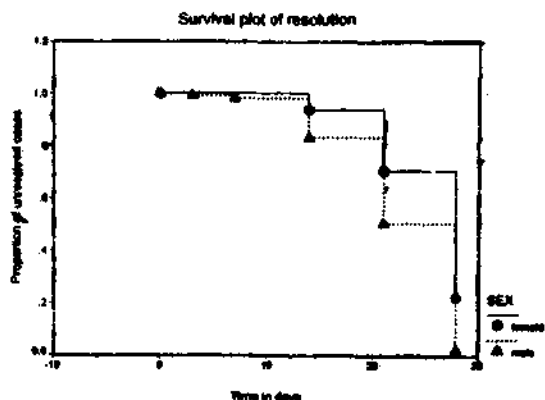
TABLE  
DIFFERENCE IN THE TOTAL OF SCALE FOR  
MANIC STATES BETWEEN SUBSEQUENT  
RATINGS ACROSS GENDER

	Male (mean±sd)	Female (mean±sd)	p*
Day 0 & 3	12.63±6.36	7.31±7.38	0.04
Day 3 & 7	7.71±4.13	7.50±5.09	0.85
Day 7 & 14	11.33±8.58	6.00±5.66	0.01
Day 14 & 21	7.00±7.47	8.56±6.72	0.35
Day 21 & 28	3.92±9.19	3.69±5.12	0.23

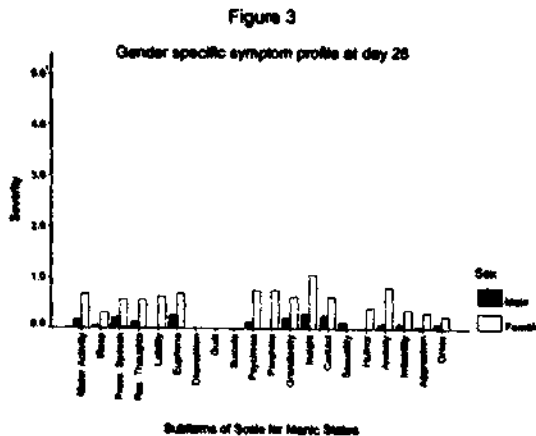
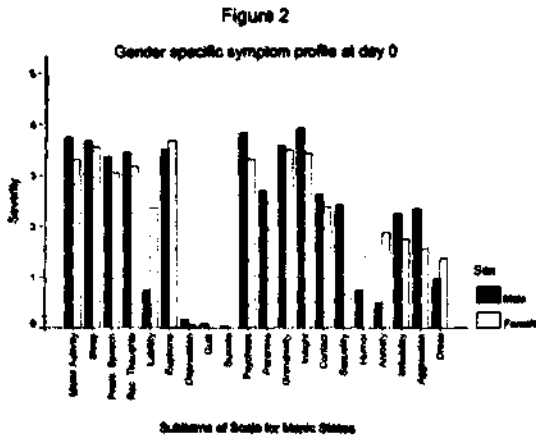
\* p value was obtained by applying the Mann Whitney U test

A survival analysis was plotted taking a cut off point as 10 on the scale for manic states as signifying recovery (figure 1). A log rank statistic of 8.53 (d.f.=1) with a significance of 0.0035 was obtained.

Figure 1



The symptom profile of mania across gender at day 0 is shown in figure 2 and at day 28 in figure 3.



Wilcoxon matched - pairs signed - ranks test was done on the scale for manic states total at each rating day for the entire sample and within gender. This was significant at 0.001 level for the entire sample. For males the total was

also significantly different at 0.001 level for each pair of rating. For females, the totals were significantly different at 0.001 level for each pair of rating except that of day 21 and 28 which was significant at 0.005 level.

Thirty three patients were put on mood stabilisers along with antipsychotics (20 males and 13 females). While two (1 male and female each) were put on a combination of lithium and valproate and one (male) on a combination of carbamazepine and valproate, the rest were put on a single mood stabiliser. Eighteen were put on lithium (11 males and 7 females) while four received carbamazepine (all females) and eight received valproate (7 males and 1 female). A course of ECT's was administered to 6 patients (4 males and 2 females). Five patients (3 males and 2 females) also received tapering doses of oral lorazepam in the initial week. The total antipsychotic dosage received by the patients was calculated in haloperidol equivalents and analyzed between the sexes. It was found that males had received lesser antipsychotics ( $270.63 \pm 141.81$ ), than females ( $392.18 \pm 118.42$ ). The difference was statistically significant (t test,  $p=0.007$ ). The sexes did not differ significantly on the number of patients on mood stabilisers and electroconvulsive therapy (Chi-square test,  $p=ns$ ).

**DISCUSSION**

A significant drop in the total of scale for Manic states across each pair of ratings was seen. These findings are comparable to that of Chatterjee & Kulhara (1989). The findings persisted when the group was divided on the basis of gender, which was not studied by Chatterjee & Kulhara (1989).

On analyzing the differences in the scale for manic states total across each pair of rating, we found that the difference differed significantly between day 0 & 3 and days 7 and 14 across gender. The males showed a significantly greater resolution in these time intervals.

In the first week males had a significant lesser score in the items for mood lability (Mann Whitney U test,  $p=0.0033$ ), Humor (Mann

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Whitney U test,  $p=0.0167$ ) and anxiety (Mann Whitney U test,  $p=0.0003$ ). This difference persisted till the end. In contrast, females scored less on the item of increased sexuality (Mann Whitney U test,  $p=0.0004$ ) on the first two ratings and aggression (Mann Whitney U test,  $p=0.0372$ ) on the first rating only. These item differences may have contributed to a significant difference in the total of manic states at day 3 due to a faster resolution of aggression and sexuality in males. At day 28, the items of motor activity, lability, paranoia, insight, humor and anxiety were significantly higher in females at 0.01 level (Mann Whitney U test) while the items of psychosis, increased contact, irritability and aggression were significantly higher at 0.05 (Mann Whitney U test) level in them.

The lesser antipsychotics received by the males indirectly confirm the finding of males having a faster resolution as the antipsychotic drugs were tapered seeing the clinical picture by the treating team. As the mean total of the rating scale has decreased over subsequent ratings, the possibility of antipsychotic induced dysphoria and akathisia confounding the clinical picture does not seem likely.

Resolution of mania per se has been discussed very little in literature. The concentration has been on the psychopathological aspects of resolution. The study by Winokur et al. (1969) assessed a few select symptoms with arbitrary clinical observation and found that hallucinations disappeared first, followed by delusions and abnormality of stream of thought. Carlson and Goodwin (1973) reported that the resolution was opposite that of onset. Chatterjee & Kulhara (1989) found that sleep disturbance and hostility resolved first generally, but there was a variable resolution pattern. Our study also reports an early resolution of aggression. There was a decrease in the total mania rating scale scores, which was significant at  $<0.01$  levels across each pair of ratings similar to that obtained in our study.

Thus this study concludes that there is a gender difference in the resolution of mania. Males settle faster especially if they exhibit aggression and sexuality while females settle

later if they exhibit anxiety and lability. However, males reached a clinical remission earlier than females in our sample, while all the males remitted at four weeks, only 80% of the females reached clinical remission. This information can come handy when deciding the locus of treatment at the OPD level.

One must keep in mind that our study had a small sample size and we were using a relatively new scale to rate the psychopathology. Furthermore as gender of the patient cannot be blinded a potential bias may have been introduced in the ratings. A major limitation of the study was that the treatment of the patients was uncontrolled resulting in a host of confounding variables viz. clinical, biochemical, genetic and psychopharmacological which might have influenced the resolution. However, studies of this nature have not been reported in literature to the knowledge of the authors and it is hoped that this article will provide the motivation for further similar studies.

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