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Interpersonal and Instrumental Functioning of Patients With Bipolar Disorder Depends on Remaining Depressive Symptoms

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Abstract

Objective: Interpersonal and instrumental functioning was investigated in patients with bipolar disorder. The findings were correlated with potentially influencing factors.
Methods: The sample included 32 outpatients with bipolar disorder and 33 healthy controls. The Life Functioning Questionnaire (LFQ) and clinical ratings for manic and depressive symptoms were applied.
Results: Patients differed significantly from controls in each domain of social functioning. They reported substantial interpersonal problems (47% vs. 13% control) and difficulties with their work and/or with duties at home (39% vs. 12%). Amongst patients being euthymic, fewer were found to have interpersonal problems (23%) and difficulties at work and/or with duties at home (15%). Social and instrumental functioning was found mainly influenced by depressive symptoms.
Conclusion: Bipolar disorder is related to a significant impairment of instrumental and interpersonal functioning. This impairment depends mainly on remaining depressive symptoms (German J Psychiatry 2010; 13 (2): 61-65).

Keywords: bipolar disorder, depression, mania, remission, social functioning

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Introduction

There is evidence that patients with bipolar disorder have an elevated risk for ongoing impairment of their social functioning. Naturalistic follow-up studies which assessed global scores of social functioning, occupational or residential status, indicate that only 35-43% of patients with bipolar disorder reach their premorbid level of social functioning within one to two years after their first hospitalization (Strakowski et al., 1998; Tohen et al., 2000; Tohen et al., 2003). A large international cross-sectional study found that only about a half of the patients with bipolar disorder was employed and more than one third reported problems with families and friends (Morselli et al., 2004). Very similar results were seen in a fifteen year long-term follow-up investigation (Coryell et al., 1998).

Our review of the literature revealed only five studies with a control group, two of them using self-rating scales (Cooke et al., 1996; Sierra et al., 2005). They found impaired social functioning even in remission. Other studies applying structured interviews or a global measurement of functioning supported these results (Bauwens et al., 1991;

Table 1: Demographic, socio-economic and clinical variables. IDS-C, Inventory of Depressive Symptomatology – Clinician Form; YMRS, Young Mania Rating Scale

	Patients (n = 32)	Controls (n= 33)
Age, years (range)	37.4±11.1 (24-78)	40.6±12.5 (23-68)
Sex, female, %	62.5	60.6
Education, %		
≥ 10 years	43.8	33.3
12-13 years (A-level)	31.3	39.4
University degree	25.0	27.3
Marital status, %		
Married/ living with partner	31.3	57.5
Widowed	3.1	9.1
Divorced/ separated	12.5	6.1
Single	53.1	27.3
Employment status, %		
Job (full-time or part-time)	37.5	63.6
School/ university	6.3	21.2
Unemployed	12.5	0.0
Unable to work	9.4	0.0
Rehabilitation/sheltered	9.4	0.0
workshop	15.6	3.0
Retired	9.4	12.1
Other		
Diagnosis, %		
Bipolar I	81.3	-
Bipolar II	18.8	-
Age of onset, years, mean±SD	22.9±9.1 (9-50)	-
Comorbid axis I disorders, %	37.5	-
Number of (hypo)manic episodes, %		-
1-5	46.7	
6-10	16.7	
11+	36.7	
Number of depressive episodes, %		-
0-5	36.7	
6-10	16.7	
11+	46.7	
IDS-C, mean±SD (range)	14.9±9.8 (3-37)[a]	-
YMRS, mean±SD (range)	4.3±7.7 (0-33)	-

Malhi et al., 2007). Another study found global functioning not impaired but more frequently problems with the family (Shapira et al., 1999).

A recent retrospective study investigated the relationship between changes in mood symptoms and changes in functioning. Even modest changes in the severity of depression were associated with significant changes in functional impairment and disability, whereas manic or hypomanic symptoms were not consistently associated with differences in functioning (Simon et al., 2007). Residual depressive symptoms may lead to enduring psychosocial impairment (Altshuler et al., 2002b; Kennedy et al., 2007; Pope et al., 2007).

The aim of this study was to examine the social functioning of acute and remitted bipolar patients in comparison to healthy controls. We distinguished between problems with interpersonal functioning (family, friends, and co-workers) and instrumental functioning (school, work, and duties at home). We hypothesized that bipolar patients have an impaired functioning in comparison to the control group even in remitted phases.

Methods

The patient sample consists of 32 bipolar outpatients (81% BP I, 19% BP II), recruited from a psychiatric outpatient clinic at the university hospital of Freiburg representing a catchment area of about 300.000 people in South Germany. Inclusion criteria were: a) diagnosis of bipolar disorder, based on a structured clinical interview (SCID-I-DSM-IV); b) age ≥ 18 years. Exclusion criteria were: a) diagnosis of schizophrenia or schizoaffective disorder; b) inpatient treatment within the last four weeks. No eligible patient refused participation. All patients were treated with mood-stabilizers and/or antidepressants for longer than four weeks.

A sample of 33 controls, matching the included patients regarding age, sex and educational level was enrolled from the general population. Controls with a history of inpatient treatment for psychiatric illness and any psychiatric or psychological treatment within the last 6 months were not included in this sample. This study was approved by the ethics committee (IEC / IRB) of the university of Freiburg.

Social functioning was assessed by the Life Functioning Questionnaire (LFQ) (Altshuler et al., 2002a). This self-rating scale measures problems with a) time, b) conflicts, c) enjoyment and d) performance in four domains of life ("friends", "family", "duties at home", "work or school"). Participants respond on a four-point scale from "absent" to "severe" problems.

Furthermore, among patients with bipolar disorder depressive symptoms (Inventory of depressive symptomatology-clinician, IDS-C) (Drieling et al., 2007; Rush et al., 1996), manic symptoms (Young Mania Rating Score, YMRS) (Young et al., 1978), and overall mood changes (Clinical Global Impressions Scale for bipolar illness, CGI-BP) were assessed. Full remission was defined as follows: IDS-C ≤ 12, YMRS ≤ 6, and CGI-BP ≤ 2 for at least one month.

Statistics

Since the data were not normally distributed, nonparametric statistics (Mann-Whitney U-test, correlations according Spearman-Browns formula, Chi square-test) were applied. The level of significance was set on a p-value ≤ 0.05. We calculated a mean score of interpersonal functioning and a mean score of instrumental functioning. The interpersonal scale consists of three items: Conflicts with a) family, b) friends and c) co-workers or supervisors. The instrumental scale contains four items: a) problems with *time* for duties at home, b) problems with *time* at work or school, c) problems with *quality* of duties at home, d) problems with *quality* at work or school. In order to assess the functioning independent from depressive symptomatology, the dimension of "enjoyment" mentioned above was not considered. Furthermore, a mean score of the two scales was calculated. Both scales showed acceptable internal consistencies (interpersonal functioning, 3 Items: $\alpha = 0.64$; instrumental

Table 2: Social functioning according to the LFQ (range: 1–4; mean ± SD) Higher values indicate more impairment.

Social functioning	All bipolar patients (n=32)	Remitted bipolar patients (n=13)	Controls (n=33)
Interpersonal	1.88±0.62*	1.51±0.36	1.36±0.37
Instrumental	1.93±0.89*	1.58±0.59	1.36±0.40
Global score	1.90±0.58*	1.54±0.31*	1.35±0.27

*p≤0.05 compared to controls, U-Test, 2-tailed

functioning, 4 items: $\alpha = 0.72$). The correlation between the two scales was $r = 0.18$ (Spearman-Browns formula). Impairment was defined as a mean score of 2 (i.e. at least mild problems) in each scale.

Results

The clinical and socio-demographic variables are shown in table 1. Patients and controls were comparable regarding age, sex, and educational level. However, patients were living more frequently without a partner and were more often without active employment. At baseline, 13 (41%) patients were remitted according to the criteria defined above. Almost half of the patients (48%) were found to have depressive symptoms (IDS-C > 12). Additionally, five patients had hypomanic or manic symptoms (YMRS > 6). Of those, two patients were acute manic with a YMRS score > 20.

Patients had a significant lower level of instrumental/interpersonal functioning and of global functioning (table 2). Using a cut-off point at a score of ≥ 2, indicating at least mild problems, 47% of the patients had impaired interpersonal functioning vs. 13% of the controls (Chi-square-test: p=0.003). Instrumental functioning was impaired in 39% of the patients vs. 12% of the controls (Chi-square-Test: p=0.014).

Further analyses were done comparing completely remitted bipolar patients with the control group. Within this subgroup, 23% of patients were found to have interpersonal problems and 15% had difficulties with their work and/or with duties at home. These rates were similar to the control group (p=0.35 and p=0.80). However, using the global mean score, a significant difference between remitted patients and controls was found (table 2).

Problems in social functioning were correlated with higher depression scores (instrumental r=0.50; interpersonal r=0.42; global score r=0.56; p≤0.05, each). Manic symptoms tended to be related to impaired interpersonal functioning (r=0.35, p=0.051). They were not related with problems seen in the instrumental functioning score (r=0.04, p=0,824; global score: r=0.25, p=0.171). Furthermore, interpersonal functioning, but not instrumental functioning was related to age (r=0.27, p=0.032). No correlations between social functioning and sex were observed.

Discussion

The aim of this study was to analyze social functioning in bipolar outpatients and to look at influencing factors. In contrast to most of the previous studies, we emphasised the perspective of the patients, using a self-report measure, and we applied a matching control group.

Our sample showed a low rate of active employment and high rates of divorce or living as single - indicating a low social functioning. This was confirmed from the subjective perspective using the LFQ. These results correspond to previous uncontrolled studies (Coryell et al., 1998; Hammen et al., 2000; Tohen et al., 2000). Results concerning the functioning of the subgroup of remitted patients were inconsistent. Whilst the rate of at least mild problems was low with remitted patients and controls, the global functioning was significantly more impaired within the patient group. This appeared in line with former studies (Bauwens et al., 1991; Cooke et al., 1996; Sierra et al., 2005).

In this study, instrumental and interpersonal functioning was clearly related to the level of depressive symptoms. This is in line with other studies showing that residual depressive symptoms are the strongest predictor for the quality of functioning (Altshuler et al., 2002b; Kennedy et al., 2007; Pope et al., 2007; Sierra et al., 2005). The link between social functioning and depressive symptoms is not necessarily the only factor for impaired functioning - we assume that also social problems e.g. with friends or at work influence depressive symptoms and vice versa.

Otherwise, our results indicate that (hypo)-manic symptoms may affect interpersonal relationships (strong tendency towards significance), but do not impair achievements of work, school or household. Hypomanic symptoms were found to be associated with improved social and leisure activities in those patients who were not considered to be in an acute episode. However, the correlation was not statistically significant (strong tendency towards significance) and only few patients of the sample were in a hypomanic (3) or manic state (2). Thus, this result must be interpreted quite cautiously. This result also corresponds to previous findings (Morriss et al., 2007).

Limitations

Study design was cross-sectional, the number of investigated persons was relatively small, and reasonable subanalyses, e.g. regarding Bipolar I vs. Bipolar II disorder or duration of illness could not be done. A self report scale of functioning was applied, which might be influenced by current mood, i.e. depressive mood can lead to a negative bias, and manic symptoms could lead to an overestimated functioning. On the other hand, clinician ratings are often biased accounting other factors like social status or leisure activities.

Conclusion

In summary, in this controlled study a quite high rate of bipolar patients with interpersonal problems and with problems at work, school or household was observed. There was a strong relation between depressive symptoms and social functioning. This supports former findings that careful attention should be given to achieve a full remission from depressive symptoms.

References

Altshuler L, Mintz J, Leight K. The Life Functioning Questionnaire (LFQ): a brief, gender-neutral scale assessing functional outcome. Psychiatry Res 2002a; 112: 161-82

Altshuler LL, Gitlin MJ, Mintz J, Leight KL, Frye MA. Subsyndromal depression is associated with functional impairment in patients with bipolar disorder. J Clin Psychiatry 2002b; 63: 807-11

Bauwens F, Tracy A, Pardoen D, Vander Elst M, Mendlewicz J. Social adjustment of remitted bipolar and unipolar out-patients. A comparison with age- and sex-matched controls. Br J Psychiatry 1991; 159: 239-44

Cooke RG, Robb JC, Young LT, Joffe RT. Well-being and functioning in patients with bipolar disorder assessed using the MOS 20-ITEM short form (SF-20). J Affect Disord 1996; 39: 93-7

Coryell W, Turvey C, Endicott J, Leon AC, Mueller T, Solomon D, Keller M. Bipolar I affective disorder: predictors of outcome after 15 years. J Affect Disord 1998; 50: 109-16

Drieling T, Schärer LO, Langosch JM. The inventory of depressive symptomatology: german translation and psychometric validation. Int J Methods Psychiatr Res 2007; 16: 230-236

Hammen C, Gitlin M, Altshuler L. Predictors of work adjustment in bipolar I patients: a naturalistic longitudinal follow-up. J Consult Clin Psychol 2000; 68: 220-5

Kennedy N, Foy K, Sherazi R, McDonough M, McKeon P. Long-term social functioning after depression treated by psychiatrists: a review. Bipolar Disord 2007; 9: 25-37

Malhi GS, Ivanovski B, Hadzi-Pavlovic D, Mitchell PB, Vieta E, Sachdev P. Neuropsychological deficits and functional impairment in bipolar depression, hypomania and euthymia. Bipolar Disord 2007; 9: 114-25

Morriss R, Scott J, Paykel E, Bentall R, Hayhurst H, Johnson T. Social adjustment based on reported behaviour in bipolar affective disorder. Bipolar Disord 2007; 9: 53-62

Morselli PL, Elgie R, Cesana BM. GAMIAN-Europe/BEAM survey II: cross-national analysis of unemployment, family history, treatment satisfaction and impact of the bipolar disorder on life style. Bipolar Disord 2004; 6: 487-97

Pope M, Dudley R, Scott J. Determinants of social functioning in bipolar disorder. Bipolar Disord 2007; 9: 38-44

Rush AJ, Gullion CM, Basco MR, Jarrett RB, Trivedi MH. The Inventory of Depressive Symptomatology (IDS): psychometric properties. Psychol Med 1996; 26: 477-86

Shapira B, Zislin J, Gelfin Y, Osher Y, Gorfine M, Souery D, Mendlewicz J, Lerer B. Social adjustment and self-esteem in remitted patients with unipolar and bipolar affective disorder: a case-control study. Compr Psychiatry 1999; 40: 24-30

Sierra P, Livianos L, Rojo L. Quality of life for patients with bipolar disorder: relationship with clinical and demographic variables. Bipolar Disord 2005; 7: 159-65

Simon GE, Bauer MS, Ludman EJ, Operskalski BH, Unutzer J. Mood symptoms, functional impairment, and disability in people with bipolar disorder: specific effects of mania and depression. J Clin Psychiatry 2007; 68: 1237-45

Strakowski SM, Keck PE, Jr., McElroy SL, West SA, Sax KW, Hawkins JM, Kmetz GF, Upadhyaya VH, Tugrul KC, Bourne ML. Twelve-month outcome after a first hospitalization for affective psychosis. Arch Gen Psychiatry 1998; 55: 49-55

Tohen M, Hennen J, Zarate CM, Jr., Baldessarini RJ, Strakowski SM, Stoll AL, Faedda GL, Suppes T, Gebre-Medhin P, Cohen BM. Two-year syndromal and functional recovery in 219 cases of first-episode major affective disorder with psychotic features. Am J Psychiatry 2000; 157: 220-8

Tohen M, Zarate CA, Jr., Hennen J, Khalsa HM, Strakowski SM, Gebre-Medhin P, Salvatore P, Baldes-

sarini RJ. The McLean-Harvard First-Episode Mania Study: prediction of recovery and first recurrence. Am J Psychiatry 2003; 160: 2099-107

Young RC, Biggs JT, Ziegler VE, Meyer DA. A rating scale for mania: reliability, validity and sensitivity. Br J Psychiatry 1978; 133: 429-35

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