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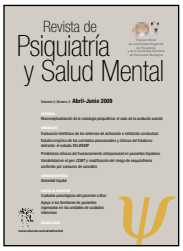

ORIGINAL

# Clinical predictors of interpersonal functioning in patients with bipolar disorder

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**KEYWORDS**
Interpersonal relationships;
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**Abstract**
*Objective:* Functional impairment has been repeatedly reported in patients with bipolar disorder even during clinical remission. Less is known about specific domains, such as interpersonal relationships. The aim of this study was to identify clinical predictors of poor interpersonal relationships.
*Methods:* Using a specific subscale of the Functioning Assessment Short Test (FAST), we assessed the interpersonal relationships of a sample of 71 euthymic bipolar (Hamilton Depression Rating Scale [HAM-D] < 8; Young Mania Rating Scale [YMRS] < 5) patients. The sample was divided into two categories: low versus high level functioning in interpersonal relationships according to the median of the sample. Multivariate analyses were applied to identify significant predictors of interpersonal functioning.
*Results:* Age ($p = 0.026$), the number of previous depressive and mixed episodes and HAMD scores differed significantly between the two groups ($p < 0.05$). For manic episodes, only a tendency was detected ($p = 0.064$). After running multivariate analyses, age ($p = 0.026$), depressive symptoms ($p = 0.055$) and the number of previous manic episodes ($p = 0.033$) could be considered predictors of poor interpersonal functioning. The model predicted 83.3%of the variance ($R = 0.59$; $gl = 1$; $p < 0.001$).
*Discussion:* Our results indicate a link between greater impairment in interpersonal relationships and being older and having more residual symptoms and a higher number of previous manic episodes. Patients with these features should be carefully monitored and specific psychosocial interventions should be implemented to improve their outcome.


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**PALABRAS CLAVE**
Relaciones interpersonales;
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Trastorno bipolar

**Predictores clínicos del funcionamiento interpersonal en pacientes bipolares**

**Resumen**
*Objetivo:* Numerosas investigaciones han demostrado un marcado deterioro funcional en pacientes bipolares asintomáticos. Sin embargo, hay poca evidencia sobre las áreas específicas del funcionamiento como, por ejemplo, las relaciones interpersonales. El objetivo de este estudio fue investigar cuáles son los predictores clínicos del empobrecimiento en las relaciones interpersonales de los pacientes bipolares.
*Métodos:* Se utilizó el dominio "relaciones interpersonales" de la prueba breve del funcionamiento (FAST) para evaluar una muestra de 71 pacientes eutímicos (HAM-D < 8; YMRS < 5) con trastorno bipolar. Se dividió la muestra en dos categorías: bueno o pobre funcionamiento en las relaciones interpersonales, según el cálculo de la mediana de la muestra. Se aplicaron análisis multivariables para dilucidar posibles predictores clínicos del empobrecimiento en las relaciones interpersonales.
*Resultados:* Se observó que la edad ($p = 0,026$), el número previo de episodios depresivos mixtos y las puntuaciones de HAM-D eran estadísticamente diferentes entre ambos grupos ($p < 0,05$). Respecto a los episodios de manía, se observó una tendencia ($p = 0,064$). Tras el análisis multivariable, la edad ($p = 0,026$), los síntomas depresivos ($p = 0,055$) y los episodios de manía ($p = 0,033$) fueron los únicos relacionados con un empobrecimiento en las relaciones interpersonales. Este modelo predice el 83,3% de la variancia ($R = 0,59$; $gl = 1$; $p < 0,001$).
*Discusión:* Los pacientes con mayor edad, más síntomas depresivos residuales y mayor número de episodios previos de manía presentaban un marcado deterioro en las relaciones interpersonales. Tal y como demuestran los resultados, los pacientes con este perfil están realmente discapacitados en esta área, por ello, se necesitan intervenciones psicológicas que ayuden a mejorar el pronóstico de este tipo de pacientes.


## Introduction

Bipolar disorder (BD) is a chronic, serious and recurring disease which affects nearly 4.4% of the population.[1] According to data from the World Health Organization, BD ranks as the sixth most incapacitating disease.[2,3] Numerous research studies demonstrate functional deterioration in bipolar patients, both in comparison with healthy individuals and with unipolar patients.[4,5]

There is a direct correlation between the severity of its emotional symptoms and the degree of functional deterioration. In fact, it is the depressive symptomatology which has the most impact on psychosocial functioning.[4,6-9] This finding is particularly important, given that many patients exhibit depressive symptoms throughout most of their lives.[10] Furthermore, it is important to emphasize that only 40% of patients regain their premorbid functional level during periods of clinical remission.[7,11]

There are studies which describe difficulties in different areas of functioning; to be specific, in the occupational sphere a decrease in productivity, a greater number of days lost over a 1-year period and high rates of unemployment have been observed.[12,13] In interpersonal relationships, a study we conducted pinpointed serious difficulties in maintaining satisfactory sexual relationships, an increase in conflicts within the family and with friends, and less participation in social activities.[14] As far as family interaction is concerned, it indicated that the quality of relationships amongst family members can affect the degree of psychosocial functioning and increase relapses.[15,16]

Although interpersonal relationships are a critical aspect, the subject has received little attention. This is partly due to the fact that the vast majority of studies use scales for the evaluation of overall functioning and they offer a general overview without specifying the domains which are affected. Another reason is that there are no reliable and specific instruments for evaluating interpersonal relationships in bipolar disorder. Therefore, little is known about the factors which have a negative influence on this aspect of the condition. The aim of this study is to determine, on the basis of a subanalysis,[17] possible clinical predictors of interpersonal relationship deterioration in a sample of euthymic bipolar patients.

## Methods

A subanalysis of a recently accepted study on clinical predictors of general functional deterioration was applied in a sample of euthymic patients.[17] In the original study the degree of functioning of patients and healthy controls was compared and clinical predictor variables for any functional deterioration which was observed were identified. More detailed results are available in the original article. The present article has concentrated exclusively on one of the functional domains, that of

interpersonal relationships, and on the identification of its clinical predictor variables.

### Subjects

The patients who participated in the original prospective study were monitored as part of the Bipolar Disorder Programme of the Clínic Hospital of Barcelona. The inclusion criteria were: patients aged 18 years or over, diagnosed, on the basis of DSM-IV euthymia criteria, with type I or II bipolar disorder of at least 3 months' duration, and defined with < 8 scores on the 17-item Hamilton Depression Rating Scale (HAM-D)[18] and < 5 scores on the Young Mania Rating Scale (YMRS).[19]

### Evaluation

With the data obtained from the evaluation of 71 patients using the brief functioning test (FAST) from the original article, a subanalysis was applied to one of the FAST domains, to be specific that of "interpersonal relationships." This domain consists of 6 items, in which relationships with friends and family, the frequency of participation in social activities, maintenance of satisfactory sexual relationships and degree of assertiveness are evaluated. The score for each of the items ranges from 0 to 3. The total score for this domain (interval, 0-18) is obtained from the sum of the scores for the 6 items. The cut-off point is 3 with the highest scores indicating deterioration in this domain.[14]

The following clinical variables were evaluated: age of onset, number of full episodes, number of episodes of mania/hypomania, number of episodes of depression, number of mixed episodes, number of hospitalizations, history of psychosis, family history of emotional disorders, suicide and psychiatric comorbities (axis I and II). Relevant socio-demographic data was also collected.

### Statistical methods

The statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) software for Windows (v. 14.0). The mean for the FAST "interpersonal relationships" domain scores was calculated with the aim of dividing the sample into two groups: good or poor functioning in interpersonal relationships. With the mean = 3, patients with scores from 0-3 were classified as having good interaction and those with > 4 scores as having poor functioning. First of all, the $\chi^2$ test was applied to evaluate the relationship between the category variables and the two groups. An ANOVA test was used to compare the continuous variables and the different groups. Then, a multivariable analysis, in which the FAST interpersonal domain was introduced as a dependent variable, was applied. The clinical variables which showed statistically significant differences ($p < 0.05$) or a differential tendency between the two groups were introduced as independent variables.

## Results

34 (47.9%) of the 71 patients with a mean ± standard deviation for age of 45 ± 13.5 years were women. Practically half of the sample exhibited a good educational level (47.9%) and 35.2% lived with a partner. The rest of the variables are described in Table 1.

With respect to the division of the groups, 47.9% of the total were classified in the poor interpersonal relationships category.

When the bivariant analyses, which compared the two groups, were applied, it was confirmed that age, HAM-D scores, depressive and mixed episodes, and work status were statistically significant ($p < 0.05$). Manic episodes did not reach statistical significance, but a firm tendency was detected ($p = 0.064$). After the application of the multivariant analysis ($R = 0.59$; gl = 1; $p < 0.001$), only age ($p = 0.026$), HAM-D scores ($p = 0.055$) and manic episodes ($p = 0.033$) were statistically significant. This model is predictive in 83.3% of cases.

## Discussion

In general, in our sample virtually half of the patients (47.9%) experienced deterioration in their interpersonal relationships. After applying multi-variable analysis, this handicap was more evident in older patients with more manic episodes and more subclinical symptoms of depression.

Our results accord with previous studies, in which greater social dysfunction was documented amongst bipolar patients in comparison with healthy individuals.[20-22] To be precise, difficulties in functioning were chiefly demonstrated in family and marital relationships, as well as occupational dysfunction and a decreased ability to enjoy free time.[23] Recently, Goldstein et al[24] studied a sample of bipolar adolescents with difficulties both in their interpersonal relationships and with their studies. However, in this trial psychotic symptomatology and psychiatric comorbities were the only variables which correlated with social deterioration. The divergence between these results and our study could be due to methodological differences, for example the age of the selected sample and the type of instrument used for assessment.

Despite the fact that the patients complied with strict criteria for euthymia (HAM-D < 8; YMRS < 5 over a period of at least 3 months), it was observed that the subclinical depressive symptomatology had a negative effect on interpersonal relationships. These results support those obtained by other authors.[11,25,26] Furthermore, there seems to be a linear correlation between the severity of the depressive symptomatology and the degree of functional deterioration.[10,27] Depressive symptoms do not only affect overall functioning, but also specific functional areas, for example, occupational and/or domestic activities, and relationships with family/friends.[28] In addition to this, the fact of having subclinical depressive symptoms makes patients more vulnerable to depressive relapses, with the functional deterioration which results.[11] Our findings indicate that there is a relationship between residual depressive symptoms and the degree of deterioration in the interpersonal domain. This indicates that there is a need to introduce psychological interventions focused on the treatment of these symptoms, with the aim of improving the prognosis for these patients.

**Table 1** Socio-demographic and clinical characteristics of the sample (good or bad functioning in interpersonal relationships)

| | Total | Good functioning | Poor functioning | $\chi^2$ or ANOVA[a] | p |
|---|---|---|---|---|---|
| Sex | | | | 0.018 | 0.286 |
| Female | 34 (47.9) | 18 (48.6) | 16 (47.1) | | |
| Work situation | | | | 4.98 | 0.023[a] |
| Inactive | 32 (45.1) | 12 (32.4) | 20 (58.8) | | |
| Occupational status | | | | 2.436 | 0.93 |
| unclassified | 37 (52.1) | 16 (43.2) | 21 (61.8) | | |
| Adaptation to occupation | | | | 7.99 | 0.005[a] |
| Poor adaptation | 20 (32.8) | 6 (17.6) | 14 (51.9) | | |
| Autonomy | | | | 0.903 | 0.264 |
| Poor | 12 (19) | 5 (14.7) | 7 (24.1) | | |
| Marital status | | | | 0.262 | 0.396 |
| No spouse | 46 (64.8) | 25 (67.6) | 21 (61.8) | | |
| Family history | 36 (53.7) | 18 (58.1) | 18 (50) | 0.436 | 0.34 |
| Family history of emotional disorder | 32 (49.2) | 18 (50) | 14 (48.3) | 0.019 | 0.544 |
| Family history of suicide | 14 (20.6) | 8 (22.1) | 6 (18.8) | 0.125 | 0.48 |
| Psychotic symptoms (first episode) | 22 (35.5) | 13 (40.6) | 9 (40.9) | 0.764 | 0.272 |
| Axis I comorbidity | 8 (53.5) | 19 (51.4) | 19 (55.9) | 0.146 | 0.443 |
| Axis II comorbidity | 29 (40.8) | 13 (35.1) | 16 (47.1) | 1.043 | 0.218 |
| Rapid cycling | 8 (11.6) | 4 (11.4) | 4 (11.8) | 0.002 | 0.629 |
| Age | 44.99 ± 13.5 | 40.78 ± 12.55 | 49.6 ± 13.18 | 8.252[a] | 0.005[a] |
| Age of onset | 27.51 ± 11.17 | 24.1 ± 7.38 | 30.82 ± 13.29 | 6.443[a] | 0.014[a] |
| Age at first admission | 25.25 ± 17.2 | 21.22 ± 12.8 | 28.27 ± 19.98 | 2.87[a] | 0.096 |
| Number of admissions | 1.37 ± 1.53 | 1.23 ± 1.14 | 1.5 ± 1.8 | 0.396[a] | 0.532 |
| Manic episodes | 2.73 ± 3.88 | 1.78 ± 2.136 | 3.79 ± 5.03 | 3.604[a] | 0.064 |
| Mixed episodes | 0.35 ± 0.91 | 0.08 ± 0.4 | 0.65 ± 1.19 | 5.14[a] | 0.028[a] |
| Depressive episodes | 5.23 ± 6.42 | 2.96 ± 3.35 | 7.68 ± 7.96 | 7.959[a] | 0.007[a] |
| Full episodes | 11.89 ± 15.2 | 11.17 ± 8.68 | 12.71 ± 20.35 | 0.17[a] | 0.69 |
| Chronicity | 17.88 ± 10.95 | 17.02 ± 11.4 | 18.73 ± 10.57 | 0.409[a] | 0.525 |
| Suicide attempts | 0.51 ± 1.4 | 0.48 ± 0.81 | 0.53 ± 1.85 | 0.018[a] | 0.89 |
| YMRS | 1.07 ± 2.07 | 0.89 ± 1.89 | 1.26 ± 2.26 | 0.57[a] | 0.453 |
| HAM-D | 2.08 ± 3.31 | 1.19 ± 2.31 | 3.06 ± 3.94 | 6.04[a] | 0.017[a] |

The data is expressed as n (%) or the mean ± standard deviation.
[a]ANOVA.

Some studies have reported that patients in the acute phase of hypomanía had more difficulties in the social domain in comparison with euthymic patients.[29,30] Morris et al[29] demonstrated that hypomanic patients presented poorer social functioning, especially in marital, family and interpersonal relationships. However, in our sample the number of previous manic episodes was the best predictor of poorer functioning in interpersonal relationships. Similarly, the accumulative effect of these manic episodes appears to partially explain the marked cognitive decline found in BD.[30-32] Moreover, there seems to be a correlation between recurrent episodes of the disease and structural changes in the brain, for example, ventricular dilation, as well as a reduction in neurotrophic factors (BDNF), which have a very important role in neuroplasticity mechanisms.[33,34]

Probably recurrent manic episodes eventually do permanent damage to brain tissue with cognitive and functional consequences. In the case of our study these consequences were observed in interpersonal relationships.

In addition to this, the older the patient the greater the deterioration in interpersonal relationships is. Previous evidence has demonstrated that middle-aged patients exhibited poorer general functioning and quality of life.[35,36] A possible explanation for this finding is that in young patients the disease has had less time to develop and, possibly there is less physical comorbidity, which favours their general functioning and, by extension, their interpersonal relationships as well.

In summary, this study supports the hypothesis that bipolar patients, even when they are euthymic, exhibit marked functional deterioration in their interpersonal relationships. However, as this is a transversal study, the relationship between cause and effect cannot be determined. It may

be the case that interpersonal functioning deficiencies are associated with more residual depressive episodes and symptoms. It is also important to mention that we have not evaluated the cognitive functioning of this sample and cognitive deficits are known to have a negative effect on both occupational and social functioning. Finally, our selection of patients was carried out in a reference centre for BD, where the most complex cases with poor prognosis are treated, so the results cannot be generalized to other contexts.

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