Manic and depressive symptoms and insight in first episode psychosis

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Keywords:
Awareness
Psychotic disorder
Bipolar disorder
Ordinal logistic regression models

1. Introduction

Poor insight is common in schizophrenia and bipolar disorder (World Health Organisation, 1973; McEvoy et al., 1989a; Amador et al., 1994; Amador and David, 2004; Ghaemi and Rosenquist, 2004; Dias et al., 2008) and may play a significant role in the course and treatment of patients with severe mental illness (McEvoy et al., 1989b; Helgason, 1990; Amador et al., 1991; Lieberman et al., 1993; Amador et al., 1994; Addington et al., 2004; Crumlish et al., 2005; Malla et al., 2006; Yen et al., 2007). There has been an increasing consensus in defining insight as a multidimensional concept, in contrast to its traditional perception as a unitary dimension. Researchers such as David (1990) and Amador et al. (1991) have developed a multidimensional view of insight and have designed instruments to measure its different dimensions. The Scale to Assess Unawareness of Mental Disorder (SUMD) (Amador et al., 1991), consists of six general items and four subscales. These six general items assess both current and past awareness of mental disorder, awareness of the achieved effects of medication, and awareness of the social consequences of having a mental disorder were modelled using ordinal logistic regression techniques. Results showed that greater awareness of mental disorder was significantly related to higher age at first episode together with higher scores for negative and depressive symptoms. The opposite was found to be true in presentations with a higher severity of disease and manic symptoms. The model fitting unawareness of the achieved effects of medication identified the same significant variables, except in the case of negative symptoms. Finally, the model assessing the social consequences of having a mental disorder showed unawareness to be greater when manic symptoms and disease severity were high.

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Mutsatsa et al., 2006; Saeedi et al., 2007). Schwartz (2001) infers that many patients with schizophrenia may develop a linear insight–demoralization–depression-suicidality syndrome which may account for the consistent finding that risk of suicide is increased when patients have been recently diagnosed, have insight (Mortensen and Juel, 1993; Addington et al., 1998; González-Pinto et al., 2007; Khalsa et al., 2008; Bakst et al., 2010) or have been released from inpatient settings (Fenton, 2000). Patients with schizophrenia need to be carefully assessed for hopelessness and suicidal ideation throughout the course of their illness, especially if there is a marked improvement in awareness of any facet of their illness/syndrome (Pompili et al., 2007), since suicide ideation is predicted by insight into illness (Bakst et al., 2009). Other affective symptoms have been related to insight. The pathological nature of symptoms is better recognized by adult outpatients with schizophrenia who experience a dysphoric affect (Freudenreich et al., 2004). In addition, patients with bipolar disorder in remission, but with low levels of manic symptoms, were less aware of having a mental disorder than those without manic symptoms (Dias et al., 2008). However, other authors found no significant relationship between insight and affective dimensions (depression and mania) in consecutively admitted patients who met criteria for DSM-IV diagnoses of schizophrenia, affective disorder with psychotic symptoms or schizoaffective disorder (Cuesta et al., 2000).

Despite poor insight being associated with acute mania in bipolar disorder (Ghaemi and Rosenquist, 2004) and the importance of poor insight as an outcome measure in early psychotic disorders (Thompson et al., 2001; Mutsatsa et al., 2003; Crumlish et al., 2005; McEvoy et al., 2006; Saeedi et al., 2007), to the best of our knowledge, there is to date very limited information on insight and manic and depressive symptoms in first-episode psychosis. Most studies of insight and affective symptoms in first-episode psychosis have been done in relation to depression (Drake et al., 2004; Sim et al., 2004; Crumlish et al., 2005; McEvoy et al., 2006; Mutsatsa et al., 2006; Saeedi et al., 2007). Likewise affective symptoms, with the exception of depression, have rarely been examined in patients with nonaffective psychosis disorders (Peralta and Cuesta, 2009). Hence in this study, we sought to examine the level of insight in first-episode psychosis and to analyze, as our primary objective, the relationship between manic and depressive symptoms and insight dimensions in a well-defined catchment area. We hypothesized that poor insight is associated with manic symptoms in people experiencing an index psychotic episode and that awareness of mental disorder, awareness of the achieved effects of medication, and awareness of the social consequences of having a mental disorder are associated with the presence of depressive symptoms during the first psychotic episode.

2. Methods

2.1. Procedure

A cross-sectional study was carried out with patients experiencing their first episode of psychosis consecutively admitted to the general hospital psychiatric ward of Santiago Apóstol Hospital in Vitoria (Spain). This is the referral center for all acute psychiatric hospitalizations within its catchment area (approximately 300,000 inhabitants). Therefore, the sample represented all the individuals presenting with a first psychotic episode that needed inpatient psychiatric treatment from January 2004 to December 2005 in this area. The study was approved by the local ethics committee.

All subjects met the criteria in the Diagnostic and Statistical Manual of Mental Disorders—fourth edition (DSM-IV) (American Psychiatric Association, 1994) for schizophrenia (30.6%), affective psychosis (20.9%; of these, 15.3% were bipolar patients), schizophreniform disorder (11.7%), brief psychotic disorder (8.1%), schizoaffective disorder (8.1%), substance-induced psychotic disorder (7.3%), schizoaffective disorder (0.8%), or non-specified psychotic disorder (10.5%). Individuals with mental retardation, organic brain disorders, or drug abuse as a primary diagnosis were excluded.

The sample consisted of 124 inpatients with a first-episode of psychosis. In this study, the first psychotic episode was defined as the first time a patient had positive psychotic symptoms of delusion or hallucinations. The DSM-IV axis I diagnosis was made using the Structured Clinical Interview for DSM-IV (SCID-I) (Spitzer et al., 1996). The SCID-I was administered by two trained assessors after each of the sample patients had been diagnosed by a psychiatrist as having a first-episode psychosis. Inter-rater reliability was obtained by rating 20 individuals who had been evaluated by both raters; the intraclass correlation coefficient was above 0.8 for all the observer-rated scales.

2.2. Measures

All assessments were made during admission. The data were only used when written informed consent had been obtained from the participants after giving them a full description of the study. Insight was measured using three (SUMD1, SUMD2, and SUMD3) of the six general insight items of the Scale to Assess Unawareness of Mental Disorder (SUMD). These six general items assess both current and past awareness of mental disorder, awareness of the achieved effects of medication, and awareness of the social consequences of having a mental disorder. Since individuals with a first episode of psychosis were assessed, the retrospective awareness items were omitted. Since the scale is not comprehensive, it was designed so that any scale or summary item may be used separately (Amaral et al., 1993) and in this sense we used three of the possible 10 summary scores (six general and four subscales) in order to achieve the aims of this study. These scores range from 1 to 5, with higher scores indicating poorer awareness (1 = unaware; 2 = partially aware; 3 = somewhat aware; 4 = scarcely aware; 5 = unaware). This scale is based upon the assumption that the component dimensions of insight are a continuous phenomenon.

Total SUMD scores for items 1, 2, and 3 and each insight dimension were used separately as dependent variables in the study, namely, awareness of mental disorder, awareness of the achieved effects of medication, and awareness of the social consequences of having a mental disorder. The aim was therefore to evaluate whether patients believed that they had a psychiatric problem or an emotional difficulty, whether they believed that medications could be useful to decrease the intensity or frequency of their symptoms, and whether they believed that the relevant social consequences experienced were related to having a mental disorder (Amaral et al., 1993). The Cronbach’s alpha obtained for the SUMD considered in this study is α = 0.528 (3 items were included, with each of them having a possible response range from 1 to 5).

Assessments also included the Positive and Negative Syndrome Scale (PANSS) (Kay et al., 1987), Clinical Global Impression scale (CGI) (Guy, 1976), Young Mania Rating Scale (YMRS) (Young et al., 1978), Global Assessment of Function scale relative to the last month (GAF) (Luborsky, 1962) and Hamilton Depression Rating Scale (HDRS-21) (Hamilton, 1960) to assess the severity of psychopathology, mania, psychosocial functioning and depression, respectively.

Furthermore, both a manic and a depressive dimension were also included in the study (González-Pinto et al., 2002a). The manic dimension was taken from the YMRS and consists of the following items: euphoria, diminished need to sleep, careless appearance, and increased sexual functioning and depression, respectively.

The depression dimension was extracted from the HDRS-21 items and consisted of depressive mood, suicidal thoughts, guilt, psychotic anxiety, and obsessive symptoms (González-Pinto et al., 2004a; González-Pinto et al., 2009).

2.3. Statistical analysis

The analysis started with the statistical description of the response and explanatory variables. Categorical variables were summarized using counts and percentages, while ordinal and continuous variables were summarized using the mean and median together with the measures of dispersion, standard deviation (S.D.) and interquartile range (IQR). For the inferential analysis, and taking into account the ordinal nature of the response variables SUMD1, SUMD2 and SUMD3, ordinal logistic regression models, also called proportional odds models (McCullagh, 1980), were used. This modelling tool is preferable to the common linear regression methods when the ordinal outcome contains a small number of categories, because it does not assume normality and constant variance (see Stokes et al., 2000). In this application, there being J = 5 possible response categories (1 = aware, 2 = partially, 3 = somewhat, 4 = scarcely, 5 = unaware), a model composed of four simultaneous equations with equal gradients is fitted. Each of the equations models the probability of belonging to high categories of the response variable versus the probability of belonging to low categories (see details in Bender and Benner, 2000). The inferential procedure used here consists of two steps. First, simple ordinal regression models for each of the three response variables were fitted using all demographic variables, clinical variables, and dimension variables (depression and manic dimensions), in order to determine which of these explanatory variables were relevant to the insight dimensions. In the second step, two different multivariate models were fitted for each dependent variable, one with clinical variables and the other with the dimension variables, both being adjusted for the significant demographic variables, to avoid multicollinearity which might be produced by the relation between the dimension and clinical variables. To facilitate the variable selection process in the multivariate modelling, only those variables with a P-value of 0.1 or lower in the simple ordinal modelling were included, and stepwise regression techniques were used to derive the final models. Significance of the covariates, together with the corresponding odds ratios for both the univariate and multivariate models, was obtained and interpreted. The ability of the model to explain variability in SUMD responses. It takes values from 0.5 to 1: the higher the better. The proportional odds
Regarding the study of awareness of mental disorder (SUMD1), simple ordinal models fitted with demographic variables show that the lower the age of the patient when first symptoms occur, the higher the unawareness of mental disorder ($P=0.011$). Concerning the effect of clinical variables on this dimension, it seems that high scores in the PANSS negative subscale, YMRS, and CGI tend to induce a greater probability of being unaware of the mental disorder, while a PANSS negative subscale score appears to have the opposite effect (see details of significance in Table 2 and Fig. 1). With regard to the mania and depression dimensions, it is clear that higher values in the depression dimension imply a lower probability of unawareness ($P=0.001$), whereas higher values in the mania dimension imply a higher probability of unawareness ($P=0.015$). Neither gender nor GAF, HDRS-21 or PANSS general scale seem to have a significant effect on SUMD1. The multiple ordinal regression model fitted with the clinical scales adjusted by age corroborate the significant effect of CGI, YMRS and PANSS negative, but PANSS positive was not maintained in the model after the stepwise selection process because of its correlation with the previous scales. Of all the models, this one has the best exploratory and predictive power, with an estimated unitless $c$ index of 0.807 and a rescaled $R^2$ of 0.40 (see Table 2). Similarly, the multiple ordinal regression model fitted for SUMD1 with the depression and mania dimensions adjusted for age maintained significance in both dimensions ($P=0.003$ and 0.058 respectively), with an estimated unitless $c$ index of 0.705 and a rescaled $R^2$ of 0.18.

With reference to awareness of the achieved effects of medication (SUMD2), similar findings to those observed for SUMD1 were obtained, the same demographic (age, $P=0.008$) being significant and likewise clinical variables (CGI, $P=0.002$, YMRS, $P<0.001$, PANSS positive, $P<0.001$) except for PANSS negative which was not found to be significant but presented a trend toward significance ($P=0.109$).

As for the mania and depression dimensions, the clear protective effect of depression was maintained in this insight dimension, however, the risk effect of the mania dimension was no longer found to be significant ($P=0.127$). Multiple ordinal regression results fitted with the clinical variables for SUMD2 showed significance in the same variables as those for SUMD1, indicating that higher scores in CGI and YMRS increase the risk of unawareness, while higher age and higher PANSS negative scores have the opposite effect. This model has the lowest exploratory and predictive power of all models fitting clinical variables, with an estimated unitless $c$ index of 0.742 and a rescaled $R^2$ of 0.135 respectively.

Finally, as regards the awareness of the social consequences of having a mental disorder (SUMD3), neither gender nor age showed

### Table 1

Descriptive characteristics of the patients.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>Median</th>
<th>IQ range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male n (%)</td>
<td>81 (65.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female n (%)</td>
<td>43 (34.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at onset</td>
<td>30.14</td>
<td>11.69</td>
<td>24.45</td>
<td>19.75–32.27</td>
</tr>
<tr>
<td>Unawareness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUMD1</td>
<td>4.37</td>
<td>1.10</td>
<td>5</td>
<td>4.0–5.0</td>
</tr>
<tr>
<td>SUMD2</td>
<td>4.24</td>
<td>0.95</td>
<td>5</td>
<td>4.0–5.0</td>
</tr>
<tr>
<td>SUMD3</td>
<td>4.35</td>
<td>1.01</td>
<td>5</td>
<td>4.0–5.0</td>
</tr>
<tr>
<td>SUMDG</td>
<td>12.97</td>
<td>3.00</td>
<td>15</td>
<td>12.0–15.0</td>
</tr>
</tbody>
</table>

### Table 2

Univariate ordinal regression model results.

<table>
<thead>
<tr>
<th></th>
<th>SUMD1</th>
<th></th>
<th>SUMD2</th>
<th></th>
<th>SUMD3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive</td>
<td>-0.200</td>
<td>12.270</td>
<td>-0.170</td>
<td>10.504</td>
<td>0.001</td>
<td>-0.132</td>
</tr>
<tr>
<td>Manic</td>
<td>0.201</td>
<td>5.957</td>
<td>0.095</td>
<td>2.331</td>
<td>0.127</td>
<td>0.235</td>
</tr>
</tbody>
</table>

The final sample consisted of 124 first-episode patients out of a possible 127 that were eligible admissions, 3 patients having declined to participate in the study. The descriptive characteristics of patients are given in Table 1, where the asymmetry and non-normality of the insight scores are evident. Of all these patients with a first psychotic episode, around 3 to 5% were aware of their mental disorder, the achieved effects of medication, and the social consequences of their disorder. More than half the patients showed unawareness of having a mental disorder (67.7%), of the efficacy of medication (56.5%), and of the social consequences of their disorder (63.7%). The mean score of the sample in all three items was higher than 4: it was 4.37 (S.D. = 1.10) for SUMD1, 4.24 (S.D. = 1.09) for SUMD2 and 4.35 (S.D. = 1.01) for SUMD3.

Results of the inferential analysis are given numerically in Tables 2 and 3 for the simple and multiple ordinal regression models respectively, and graphically represented using odds ratios (OR) in Fig. 1.

### Table 3

Univariate ordinal regression model results.

<table>
<thead>
<tr>
<th></th>
<th>SUMD1</th>
<th></th>
<th>SUMD2</th>
<th></th>
<th>SUMD3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td></td>
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<td>0.235</td>
</tr>
</tbody>
</table>
significant results. The clinical scales CGI, YMRS and PANSS positive again have a clear effect on this insight dimension, with high scores on the scales leading to higher unawareness levels. However, PANSS negative had no significant effect, whereas PANSS general psychopathology subscale did ($P = 0.023$), showing the same trend as the previous scales (the higher the score, the higher the probability of unawareness). In addition, both depression and mania dimensions seemed to significantly affect SUMD3 (see details in Table 2 and Fig. 1). Among all the scales which seem to influence SUMD3, multiple ordinal regression results identify only CGI and YMRS, both with high significance (see Table 3), and with reasonably good predictive and explanatory powers ($c = 0.771$ and $R^2 = 0.297$). As for the effect of depression and mania dimensions on SUMD3, although both were retained in the multiple ordinal model, this insight dimension mania seemed to have a higher contribution than depression, in contrast to what occurred in the cases of SUMD1 and SUMD2 (see Table 3), having a predictive power of $c = 0.669$ and an explanatory power of $0.122$.

### 4. Discussion

This appears to be the first study of affective symptoms, including not only depressive but also manic symptoms, and insight dimensions in patients with acute first-episode psychosis. To our knowledge, there are no studies examining the correlation between manic symptoms and insight dimensions in samples with a first psychotic episode, although manic symptoms have been reported to be a dimension of psychosis (McGorry et al., 1998; Van Os et al., 1999). With the exception of depression, all other affective symptoms and syndromes have been rarely examined within nonaffective psychotic disorders (Peralta and Cuesta, 2009). We found, as hypothesized, that

| Table 3  
<p>| Multivariate ordinal regression model result. |</p>
<table>
<thead>
<tr>
<th>SUMD1</th>
<th>SUMD2</th>
<th>SUMD3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model for the scales</strong></td>
<td><strong>Model for the dimensions</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>$-0.055$</td>
<td>7.119</td>
</tr>
<tr>
<td>CGI</td>
<td>0.962</td>
<td>7.227</td>
</tr>
<tr>
<td>YMRS</td>
<td>0.154</td>
<td>15.613</td>
</tr>
<tr>
<td>PANSS</td>
<td>$-0.088$</td>
<td>8.980</td>
</tr>
<tr>
<td>Deviance</td>
<td>$L = 202.3$ ($P = 1.000$)</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>$C = 0.742$</td>
<td></td>
</tr>
<tr>
<td>Max-rescaled $R^2$</td>
<td>$R^2 = 0.397$</td>
<td></td>
</tr>
</tbody>
</table>

| **Model for the dimensions** |
| **Age** | $-0.046$ | 5.741 | 0.017 | $-0.047$ | 6.510 | 0.011 | NS |
| Depressive | $-0.176$ | 8.780 | 0.003 | $-0.171$ | 10.301 | 0.001 | $-0.105$ | 3.643 | 0.056 |
| Manic | 0.165 | 3.589 | 0.058 | 0.220 | 6.515 | 0.011 |
| Deviance | $L = 233.2$ ($P = 1.000$) |
| C | $C = 0.705$ |
| Max-rescaled $R^2$ | $R^2 = 0.183$ |

![Fig. 1. Odds ratios with 95% confidence intervals for the effect of each variable on insight.](image-url)
first psychotic episode individuals with higher YMRS scores are more likely to have a poor insight. Similarly, high values in the mania dimension induced a higher probability of unawareness. This is in line with previous studies of patients with mania (Yen et al., 2003). Acutely ill, manic patients are particularly unlikely to attribute any symptom to a mental illness, although, they do not rate themselves differently from how psychiatrists rate them (Swanson et al., 1995). One published study that analyzed insight change in acute mania (with and without psychotic symptoms) found an improvement in insight correlated with recovery from a manic episode, although some residual insight impairment was seen at the time of discharge, particularly in patients with mood-incongruent psychotic symptoms (Peralta and Cuesta, 1998). Such findings related to psychosis point to the need for studying the association between manic symptoms and insight in first-episode psychosis.

In relation to the other affective symptoms studied, our data support the hypothesis that insight is associated with depressive symptoms in individuals who experience a first psychotic episode. Higher values in the depression dimension imply a lower probability of unawareness, especially in relation to the effectiveness of medication and the social consequences of the illness. It is only recently that greater insight and depressive symptoms have been found to be associated at the time of baseline assessment in patients with a first psychotic episode (Drake et al., 2004; Sim et al., 2004; Crumlish et al., 2005; McEvoy et al., 2006; Mutsatsa et al., 2006; Saeedi et al., 2007). Mutsatsa et al. (2006) reported that patients who were less depressed had poorer awareness of their illness, were less able to correctly attribute their illness symptoms, and showed a higher degree of conviction in their beliefs. In this regard, Kemp and Lambert (1995) found that during acute hospital admissions, patients with a greater awareness of mental disorder and of the social consequences of having a mental disorder were more “depresed” (“depression” PANSS cluster), although 3 to 6 weeks after admission (prior to discharge) only the correlation with awareness of social consequences of mental disorder remained significant. Another interesting result found in a study conducted on a sample of patients diagnosed with chronic schizophrenia (Hasson-Ohayon et al., 2006) was that a higher level of insight into having a mental disorder was related to a decreased emotional well-being, while having insight into the advantages of medication was related to a higher emotional well-being. Some studies have been conducted in patients diagnosed with schizophrenia and others in patients diagnosed with bipolar disorder; however, Varga et al. (2007) found that there was no significant difference between general illness awareness in patients with schizophrenia and those with bipolar I disorder (recovered or in remission). However, patients with bipolar disorder did have a better awareness of their symptoms (SUMD awareness) and their pathological nature (SUMD misattribution) compared to patients with schizophrenia (Varga et al., 2007).

Analysis of the various dimensions of insight may help to clarify the influence different factors have on insight (Smith et al., 2000; Varga et al., 2007). We found that high values in the mania dimension induced a lower probability of awareness, but the significance of this dimension was mitigated by the strong influence of the depression dimension on awareness, particularly on the awareness of the effectiveness of treatment. Interestingly in our study, the manic dimension was not related to awareness of the need for medication, highlighting the importance of evaluating the different dimensions of insight. This important difference between first psychotic episode patients and bipolar patients should be considered during psychoeducational programs. It is only in the awareness of the social consequences of the illness that the mania dimension diminishes awareness more significantly than the depression dimension. Therefore, patients with manic symptoms should probably receive more social support, and patients with depressive symptoms receive more individual support to avoid suicide attempts.

Our findings support the high frequency of insight impairment even early in the course of psychosis. These results are roughly in agreement with those reported by Crumlish et al. (2005), who found that only 3% of individuals with first-episode schizophrenia and schizophreniform disorder had full PANSS insight at presentation. However, when compared to other published first-episode studies, our rate of 3–5%, of individuals with full SUMD insight, is relatively low (Fennig et al., 1996; Thompson et al., 2001; Mintz et al., 2004; Saeedi et al., 2007). Fennig et al. (1996), using a single item test to assess level of insight (the insight question on the Hamilton Depression Scale), found that nearly half their patients with schizophrenia (46.5%) and other psychosis (43.8%) had full insight at the time of baseline assessment. Thompson et al. (2001) found that 27% of first-episode schizophrenia spectrum patients were aware of having a mental disorder. Unlike us, they defined the first episode as “the first psychiatric hospitalization or evaluation, with a total duration of illness of less than 1 year”. Variety in measurement instruments, time of evaluation, and sample characteristics could be associated with these differences in results.

In addition, we found that more severe psychopathology, as measured by the CGI, tended to increase the probability of being unaware of mental disorder. No significant relationship was found between insight and GAF. The positive, negative and general psychopathology subdomains of the PANSS each have different associations with insight dimensions. Thus, higher PANSS negative subscale scores appeared to increase the probability of being aware of mental disorder and higher scores in the PANSS general psychopathology subdomain appeared to increase the probability of poor awareness of the social consequences of having a mental disorder. There is little agreement regarding the relationship between insight and positive symptoms. Some authors reported that higher levels of positive symptoms are associated with less insight (Fennig et al., 1996; Keshavan et al., 2004; Mintz et al., 2004; McEvoy et al., 2006), while others found no relationship (Shad et al., 2004). We found an association in early analyses, but taking all clinical symptoms together, manic symptoms were more important than positive symptoms when it came to explaining poor insight. Disparities are greater, however, with regard to the relationship between insight and negative symptoms. Some studies also found higher negative symptoms to be associated with poorer insight (Fennig et al., 1996; Keshavan et al., 2004; Mintz et al., 2004; McEvoy et al., 2006), while others reported no significant relationship (Shad et al., 2004). Nevertheless, some of the most recent research has also found that poor insight at the time of baseline assessment is positively correlated with negative symptoms in patients with a first psychotic episode (Sim et al., 2006). A similar variability has been reported in psychotic samples of different ages and in different treatment settings (Amador et al., 1994; Swanson et al., 1995; Baier et al., 2000; Vaz et al., 2002; Mintz et al., 2003). Given these controversial results, this area clearly needs to be examined in future research.

Age was found to be significantly correlated with insight, in that a better awareness of mental disorder and of the achieved effects of medication was associated with older age at the time of onset of the psychiatric disorder. However, age had no significant effect on awareness of the social consequences of having a mental disorder. These findings are in line with the results of a recent study including first-episode patients participating in a clinical trial (Thompson et al., 2001). In that study, however, women had higher insight, a finding not confirmed in our study. Age is usually an important factor in the expression of psychosis (López et al., 2001; González-Pinto et al., 2003b, 2004b).

In our study, the model with the highest explanatory and predictive power is one which models SUMD1 as a function of factors that decrease awareness, such as severity and manic symptoms, and factors that increase awareness such as age and negative symptoms. This model explains 40% of the variance and has the advantage of avoiding needing to consider whether the insight items had a normal
enhancing it while providing patients with improved skills to cope with depressive symptoms and which could enhance awareness of the social consequences of the illness in patients with manic symptoms early in the course of psychosis.

The strengths of this study include that it examined specific components of insight in first episode psychosis and that the sample represented all the people with a first psychotic episode requiring inpatient psychiatric treatment in the area. Moreover, to take into account the non-normal distribution of insight dimensions, ordinal logistic regression models were used, which made the results easier to interpret. Limitations included the cross-sectional nature of the design. However, our findings are of clinical importance because they point out the value of assessing the distinct dimensions in psychosis, such as mania and depression, given their different association pattern with each insight dimension. Based on the results of our study and previous findings in this field, we conclude that when considering how to design psychosocial interventions it could be important to address first psychotic episode patients' lack of insight, enhancing it while providing patients with improved skills to cope with depressive symptoms early in the course of psychosis. Likewise, our study provides the novelty of showing the importance of enhancing awareness of the social consequences of the illness in first-episode patients with manic symptoms. Indeed, in this regard, it is hoped that the DSM-V and the ICD-11 will incorporate dimensions into the classification system (Vieta and Phillips, 2007).

Acknowledgements

We would like to acknowledge the help of Ana Aldama, Cristina González, Ruben González, and Marta Arraiz in interviewing the patients.

This study was supported by Health Research Funds from the Spanish Government (FIS: PI052761; PI061416; RD06/0111/014; PI05/00763; CIBER network which is a initiative of ISCIII CB07/09/0024; PI07/2359; EC07/2359; RD06/0111/014; PI05/00763; PI061416; EC07/2359; RD06/0111/014; PI05/00763), the European Regional Development Funds (FEDER), and by local grants (2006111025; 2007/04). Dr González-Pinto is responsible for a specific collaborative agreement between the Spanish Government (SCII) and the Basque Government to stabilize and intensify research in the National Health System (Boe nº 21: 24, January 2007). The psychiatric research department in Santiago Apóstol Institute of Mental Health, Rockville, MD, pp. 217–235.


