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**Health-care needs of remitted patients with bipolar disorder: A comparison with schizophrenia**

Neogi R *et al.* Health-care needs in remitted bipolar disorder

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**Abstract**

***AIM***

To investigate health-care needs and their correlates among patients with remitted bipolar disorder (BD) compared to patients with remitted schizophrenia.

***METHODS***

Outpatients with BD (*n* = 150) and schizophrenia (*n* = 75) meeting clearly defined remission criteria were included in the study along with their relatives. Diagnostic ascertainment was carried out using the Mini International Neuropsychiatric Interview. Demographic and clinical details were recorded using structured formats. Residual symptoms were assessed using standardized scales. Health-care needs were assessed on two separate scales. The principal instrument employed to assess health-care needs was the Camberwell Assessment of Need-Research version (CAN-R). To further evaluate health-care needs we felt that an additional instrument, which was more relevant for Indian patients and treatment-settings and designed to cover those areas of needs not specifically covered by the CAN-R was required. This instrument with a structure and scoring pattern similar to the CAN-R was used for additional evaluation of needs. Patients’ level of functioning was assessed using the Global Assessment of Functioning Scale and their quality of life (QOL) using the World Health Organization Quality Of Life-BREF version in Hindi.

***RESULTS***

An average of 6-7 needs was reported by patients with BD as well as their relatives. Commonly reported needs were in the areas of economic and welfare needs, informational needs, social needs and the need for treatment. According to the CAN-R, both patients and relatives reported that more than 60% of the total needs were being met. However, over 90% of the needs covered by the additional evaluation were unmet according to patients and relatives. Needs in the areas of economic and welfare-benefits, information, company, daytime activities and physical health-care were largely unmet according to patients and relatives. Total, met and unmet needs were significantly higher for schizophrenia, but the most common types of needs were quite similar to BD. Relatives reported more needs than patients with certain differences in the types of needs reported. Level of patients’ functioning was the principal correlate of greater total and unmet needs in both groups. Significant associations were also obtained with residual symptoms and QOL.

***CONCLUSION***

The presence of unmet needs in remitted patients with BD was an additional marker of the enduring psychosocial impairment characteristic of the remitted phase of BD.

**Key words:** Health-care needs; Bipolar disorder; Schizophrenia; Remission; Patients; Relatives

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**Core tip:** Health-care needs, functioning and quality of life (QOL) were assessed in 150 outpatients with remitted bipolar disorder (BD) and 75 with remitted schizophrenia. A high number of needs were found in BD; economic, welfare and information needs were mostly unmet. Total, met and unmet needs were significantly higher for schizophrenia, but the pattern of needs was similar to BD. Relatives reported more needs than patients with differences in the types of needs. Patient-functioning, residual symptoms and QOL were associated with higher needs. Unmet needs in remitted patients with BD were indicative of the enduring psychosocial impairment during remission.

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**INTRODUCTION**

The traditional view of bipolar disorder (BD) is that of a condition characterized by good outcome and complete recovery from acute episodes of the illness. However, research over the past few decades has clearly shown that a substantial proportion of remitted patients with BD continue to display subsyndromal symptoms, neurocognitive deficits and impairments in occupational and social functioning[1-3]. The diverse nature of these disabilities in BD suggests that measures beyond mere clinical symptoms are required to truly estimate the psychosocial impact of the condition during remission. Measures such as quality of life (QOL) or level of functioning are useful, but they do not generally provide much information about how the illness-related dysfunction or lack of satisfaction with treatment can be alleviated.The concept of “health-care needs” appears to overcome this shortcoming being a measure of outcome, in which subjective perceptions of patients and caregivers are evaluated in order to determine ways of improving the outcome of the illness[4].

The National Health Service and Community Care Act[5] defines “need” as the“ requirement of the individual to achieve, maintain and restore an acceptable level of social independence and QOL”. A health-care need is considered to be present when because of symptoms, distress or disability, the patient’s level of functioning is not optimal due to some potentially remediable or preventable cause[4]. Accumulating evidence indicates that the extent to which needs of patients is met predicts their levels of disability, QOL, and satisfaction with treatment[6,7]. Accordingly, examination of needs and their correlates not only serves as the basis for improved treatment and judicious resource allocation, butalso as a comprehensive indicator of the psychosocial status of patients and their psychosocial outcome following treatment[8]. Finally, in order for patients to become partners in their own treatment, it is important to understand and prioritize their personal wants and needs[4].

Despite the obvious implications of examining health-care needs of patients, very few studies have chosen to focus exclusively on examining needs among patients with BD. This contrasts with the large amount of literature available on needs of patients with other mental illnesses, particularly schizophrenia. Accordingly, the current studyaimed to assess health-care needs and their correlates among patients with BD in remission, compared to those with remitted schizophrenia. Given the paucity of literature in this area, the first objective was to document the number and types of needs found among patients with BD in remission. To provide a context to the findings comparisons were carried out with health-care needs among patients with remitted schizophrenia and the correlates of health-care needs were also examined. Schizophrenia was chosen as a comparison group because of the substantial amount of research data on health-care needs available for this condition. Based on previous research it was hypothesized that the number and types of health-care needs in BD would be similar to schizophrenia and would be associated with patient-functioning, symptom-severity and QOL. Since some differences between patients’ and caregivers’ evaluation of needs has been reported earlier[9,10], health-care needs were assessed both from the perspective of patients and their relatives. The eventual findings were expected to yield a better understanding of health-care needs among patients with BD in remission.

**MATERIALS AND METHODS**

***Approval/consent***

The protocol was approved by the ethics and research committees of the institute where it was conducted. Written informed consent was sought prior to induction and other ethical safeguards were maintained during the study.

***Participants***

Patients along with their relatives were recruited from those attending the outpatient psychiatric services of a tertiary-care hospital in north-India.Patients aged 18-60 years,with a diagnosis of BD or schizophrenia as per DSM-IV criteria[11], determined using the Mini International Neuropsychiatric Interview (MINI)[12] were included. Patients with BD had to be in remission, which was defined cross-sectionally as ascore of < 8 on the 17-item Hamilton Depression Rating Scale (HDRS)[13] and a score of < 6 on the Young Mania Rating Scale (YMRS)[14]. Further, only those patients with BD without acuteepisodes in the 3-mo period prior to intake were includedbased on information from patients, relatives and case notes. Finally, patients had to be on a stable dose of psychotropics, *i.e.*, not more than 50% hikes or reductionsin dosagesin these 3 mo. Patients with schizophrenia were included if they met remission criteria of Andreasen *et al*[15] on the Positive and Negative Syndrome Scale for Schizophrenia (PANSS)[16]. Similar to patients with BD, only patientswith no exacerbations of positive or negative symptomsand on stable doses of psychotropics in the 3-mo period prior to intake were included. Additionally, both patient groupswere matched on age, gender, residence (urban/rural) and duration of illness. Patients with comorbid psychiatric or physical illnesses, substance use disorders (except nicotine use) and organic brain syndromes were excluded. Over a period of about a year, 150 outpatients with BD and a matched group of 75 outpatients with schizophrenia who fulfilled the selection criteria were inducted along with their relatives.

***Assessments***

Apart from confirming diagnoses with the MINI and rating symptoms, demographic and clinical details were recorded using structured formats. The principal instrument employed to assess health-care needs was the Camberwell Assessment of Need-Research version (CAN-R)[17]. The CAN-R consists of clinical and social needs divided into 22 areas. In each of these areas there are four sections, which assess the severity of need, current help received from friends or relatives, help from social services and outpatient clinics, the adequacy of helpand satisfaction with the help received on a four-point scale. Though the CAN-R is a valid and reliable instrument for assessing needs of people with severe mental illnesses, it appeared to leave out some of the needs commonly reported by Indian patients. To evaluate health-care needsfelt to be more relevant for Indian patients and treatment-settings, an additional instrument which wasdesigned to cover those areas of needs not specifically covered by the CAN-Rwas used. The structure and scoring pattern of this instrument was similar to the CAN-R, but it had 21 items/areas not covered by the CAN-R. Thisscale has been used in a multi-centric Indian study on needs of patients with severe mental illnesses[18]. Finally, the level of functioning of patients was assessed using the Global Assessment of Functioning Scale (GAF)[11] and their QOL using the World Health Organization Quality Of Life-BREF version in Hindi (WHOQOL-BREF)[19].

***Statistical analysis***

Data were analyzed using the Statistical Package for Social Scientists, version 15.0. Continuous variables in the two groups were compared using “*t*” tests or Mann-Whitney tests, and ordinal and nominal variables using *χ*2 tests. To examine the association between health-care needs and clinical and demographic correlates, Pearson’s Product Moment Correlation coefficients (for normally distributed continuous data) and Spearman’s Rank Correlation coefficients (for ordinal data with non-normal distributions) were estimated. Significance was set at 5%; *P* values were also adjusted for the multiple correlations carried out by using the Bonferroni correction. Separate stepwise multiple regression analyses with total and unmet needs on the CAN-R as dependent variables were carried out using patients’ and relatives’ reports to determine the correlates of health-care needs.

**RESULTS**

***Profile of participants (Table 1)***

Patients with BD were more likely to be married and in paid employment compared to those with schizophrenia. Relatives of patients with BD were more likely to be women and more likely to be their spouses, whereas parents outnumbered spouses in the schizophrenia group. All patients were on treatment. Clinical profiles of both groups were comparable.

***Needs assessment on the CAN-R: Patients’ reports (Table 2)***

Though the total number of needs was relatively high among both patient groups, more than 60% of the total needs were perceived as being met. The mean number of total, met and unmet needs reported by patients was significantly higher for schizophrenia than BD. However, the pattern of individual needs was largely similar with the eight most common domains of needs in both groups being: Help with providing welfare-benefits, information about the condition and its treatment, help with the household skills, help for allaying psychological distress, the need for company and social life, help regarding physical-health problems, help with daytime activities, help with self-care, and help for coping with psychotic symptoms. Among these domains, needs were perceived to be unmet in the areas of welfare-benefits, company, and information (mainly for schizophrenia) by a greater proportion of the patients. Patients with schizophrenia reported significantly greater needsin some additional domains including help with psychotic symptoms, the need for company, telephones and transport, and financial needs.

***Needs assessment on the CAN-R: Relatives’ reports (Table 3)***

The overall pattern of needs and the eight most common needs reported by relatives was similar to that of patients. Like patients about 60% of the total needs were perceived to be met by relatives. Additionally, the mean number of total needs and met and unmet needs were significantly higher for those with schizophrenia than those with BD. Certain significant differences were, however, noted between patients and relatives. For the BD group, the mean number of total needs (*t* = 1.97; *P* < 0.05) and unmet needs (*t* = 2.01; *P* < 0.05) was significantly higher according to the relatives. Similar to patients’ reports, the need for help with psychotic symptoms and for transport were greater among those with schizophrenia, but unlike patients relatives reported significantly greater total needs in the domains of accommodation and help with the household skills. Finally, while in the BD group, the need for welfare benefits and company (among the eight most common needs) were perceived as being largely unmet, in the schizophrenia group unmet needs were greater in two additional areas of help with daytime activities and information about the condition and its treatment, where the proportion of relatives reporting unmet needs was significantly greater than those reporting information needs to be met (*χ*2 = 13.79; *P* < 0.01).

***Help received and satisfaction with help: Patients’ and relatives’ reports***

Patients’ and relatives’ reports about the help received from formal (health-care services) and informal sources (family), and their satisfaction with this help revealed certain common trends across both patient groups. Firstly, both patients and relatives reported that they had hardly received any help from either formal or informal sources and were largely dissatisfied with the help received in three of the eight areas where needs were commonly expressed including welfare-benefits (93%-98%), information about the condition and its treatment (59%-73%), and the need for company and social life (45%-56%). In the areas of help regarding physical-health problems and with daytime activities, some help was received from friends and family; still, about a-third to half of the respondents were dissatisfied with help received. In the areas of help with the household skills and for allaying psychological distress, majority of the respondents (73%-100%) reported receiving help from informal sources, and were satisfied with the help received. In the area of psychotic symptoms, a majority of the patients with schizophrenia and their relatives (85%-90%) acknowledged receiving help from health-care services and were satisfied with the help received; though respondents in the bipolar group did not receive much help from formal sources, the majority were still satisfied by the help received in this area (83%-90%).

***Additional evaluation of health-care needs of patients (Table 4)***

Results of the additional evaluation of needsshowed that a larger proportion of the needs (over 90%) reported by patients or their relatives were unmet in contrast to the CAN-R evaluation. Similar to the CAN-R evaluation, total, met and unmet needs were significantly greater among those with schizophrenia. Common areas of needs included those for free treatment, reimbursement of medical expenses, financial help, help with work or job reservations, travel concessions, and the need for psychoeducation. Patients expressed the need for travel concessions, disability certificates which would enable them to avail welfare-benefits, and the need for self-help groups, while relatives reported needs in the areas of rehabilitation and help with the stress of caregiving. Not unsurprisingly, the majority of the respondents (79%-100%) reported that they had received little help in these areas. Unlike the CAN-R evaluation, there were no differences between the patients’ and relatives’ reports.

***Correlates of health-care needs (Table 5)***

Univariate associations between health-care needs and demographic, clinical and psychosocial variables revealed that the GAF and the WHOQOL-BREF scores demonstrated significant inverse associations with total needs based on relatives’ reports, and unmet needs based on reports of both patients and their relatives. Table 5 also includes the results of separate stepwise multiple regression analyses with total needs and unmet needs being the dependent variables in each analysis. The GAF scores, PANSS positive scores, and scores on the psychological-health domain of the WHOQOL-BREF explained about 25% variance in the total needs scores (GAF scores - 18%; PANSS positive scores - 5%; WHOQOL-BREF psychological-health domain scores - 2%) according to relatives’ reports. The same variables explained about 28% to 35% of the variance in unmet needs scores according to patients’ or relatives’ reports, with 22% to 29% of the variance being explained by the GAF scores alone.

**DISCUSSION**

There could be two possible reasons for carrying out assessments of health-care needs in any group of patients[4,7,8]. Firstly, the needs elicited serve as a comprehensive index of the psychosocial outcome of the disorder. Secondly, such assessments provide a picture of needs from the perspective of patients and theirrelativesindicating areas that could be targeted to improve the outcome of the disorder. The results of this study provide information particularly for remitted patients with BD on these two aspects.

***Health-care needs among patients with*** BD ***according to patients***

The average number of total needs reported by the patients themselves on the CAN-R was about six, which fell within the range of 4 to 10 needs reported by patients with severe mental illnesses on the CAN-R[18,20-22]. Though comparison with other studies was difficult because of differences in patient-samples, methodology and assessment instruments, the mean number of total needs among patients with BD of the present study was quite similar to previous reports of patients with either BD[23-25], or severe mental illnesses including BD[9,18,22,26-28]. Combining the findings of the CAN-R and the scale for additional evaluation of needs suggested that needs were most frequently expressed in three or four broad clusters. The commonest of these wereeconomic and welfare needs including needs for welfare-benefits, free treatment, financial help, travel concessions or disability benefits and help with obtaining jobs.The second group consisted of the need for information about the condition and its treatment, and for psychoeducational programmes for meeting this need. The third group consisted of social needs such as the need for help with household skills and help with psychological distress, the need for company and help with daytime activities, and the need for self-help facilities to cater to these social needs. Finally, physical health needs and the need for treatment of psychotic symptoms were also commonly expressed. The pattern of needs reportedby patients of the current study was broadly similar to the onesreported by other studies of BD, which have found that needs are most frequently expressed in social, treatment, informational, and economic or welfare domains[9,23-25].

On the CAN-R a majority of the patients and relatives reported their needs to have been met. Nevertheless, needs in the areas of economic and welfare-benefits, information, company, daytime activities and physical health-care needs were largely perceived as being unmet, and participants were mostly dissatisfied with the help received from the health-care services. In other areas patients received help from friends and family; therefore, these needs were reported as being met, and patients were satisfied with the help received. The additional evaluation also confirmed that economic, welfare and information needs were the ones most likely to remain unmet. The proportion of met *vs* unmet needs and the types of unmet needs in this studywerevery similarto several Indian studies, which have assessed health-care needs among patients with severe mental illnesses including schizophrenia and BD[18,22,25,29-31]. The pattern of primacy of economic and welfare needs in Indian studies is alsoquite unlike the pattern of needs reported in Western studies, where a greater amount of help and benefits are usually received from health-care services; therefore, social needs are more often unmetthan economic, welfare or treatment needs[7,24,32-35]. These differences clearly reflect the inadequate support that patients receive from formal health-care services in India, which forces them to turn to their family and friends to fulfil their needs[18,22,26]. They also emphasize the fact that socio-cultural factors such as the pre-eminence of the family in providing care, and thelimited reach of the local health-care services probably have a greater bearing on the pattern of needs, particularly unmet ones, than other factors such as the type of psychiatric disorder[20,36,37].

***Comparison of health-care needs between patients with BD and schizophrenia***

That the type of psychiatric disorder has minimal influence on expressed needs was endorsed byother results of this study, which indicated that there were very few differences between patients with BD or schizophrenia in most aspects of health-care needs assessed. Nevertheless, the total number of needs, the number of met and unmet needs, and needs in the domains of company, financial help, transport and telephones were all significantly higher for schizophrenia. This was a consistent finding on the CAN-Ras well as the additional evaluation of needs and across reports of both patients and their relatives. This was probably because patients with schizophreniahad greater levels of residual psychopathology even in their remitted stage than patients with BD. The fact that patients with schizophrenia reported greater needs in the area of psychotic symptoms, and that the severity of positive psychotic symptoms was associated with the extent of total and unmet needs provided further support for the notion that residual positive symptoms contributed to the greater number of needs in schizophrenia[30]. However, apart from these differences, the pattern of needs including the seven or eight areas where needs were commonly expressed, either on the CAN-Ror on the additional evaluation were largely similar between the two groups. Other comparisons of health-care needs between schizophrenia and BD have generally reported a similar profile in both disorders[18,25,27,28], though one study found thatpatients with affective disorders had higher levels of unmet needs in certain areas[9].

***Health-care needs: Patients vs relatives***

Relatives’ reports of needs on the CAN-R, including the most common needs, the overall pattern of needs, the proportion of needs met, and the differences between schizophrenia and BD weremostly similar to that of patients. However, for the BD group the number of total needs and unmet needs was significantly higher according to the relatives. Finally, there some differences between patients’ and relatives’ reports in individual domains of the CAN-R and the type of unmet needs, with relatives usually placing more emphasis on social and informational needs than the patients themselves. This was in line with most of the previous research on the subject, which has indicated that relatives generally report greater number of needs, and/or their perceptions regarding areas of need differ from those of patients[9,36,38,39]. Differing views of needs among patients and relatives could be a consequence of the additional component of caregiver-burden that relatives have to face, since certain studies have found that a higher level of caregiver-burden is usually associated with higher levels of expressed needs and differences in the types of needs reported by relatives[9,40].

***Correlates of health-care needs***

The level of patient-functioning emerged as the single most important correlate of health-care needs, particularly unmet needs among both patient groups. This was similar to earlier reports of a positive association between greater number of needs and higher levels of dysfunction[7,18,21,29,33]. Moreover, the associations between needs and functioning, between needs and residual symptoms and between needs and QOL also underlined the fact the extent and pattern of needs was a useful index of the overall psychosocial status of remitted patients with BD or schizophrenia[6,7,33,34,41,42].

***Limitations***

The findings of this study need to view in the context of its methodological limitations. Principal among thesewas that it was a hospital-based study of remitted patients from a single centre; this hinders the generalization of its results to other patient populations with differing clinical profiles. Moreover, though theCAN-R has been used among Indian patients it is yet to be properly validated in Indian settings, particularlyamong patients with BD. The fact that the additional evaluation carried out using a self-designed instrument yielded somewhat different findings suggests that the CAN-R might need some modifications before being used among Indian patients.

***Conclusions***

These methodological lacunae not with standing, several findings of this study may be of relatively novel significance. Firstly, patients with BD even when they were in remission had wide ranging health-care needs, many of which were unmet. Impaired functioning, residual symptoms and QOL emerged as the principal mediators of total and unmet needs. Thus, the presence of unmet health-care needs is an additional marker of the enduring psychosocial impairment characteristic of remitted BD. Accordingly, treatment of BD should place greater emphasis on addressing the unmet needs of patients with BD even after patients achieve remission. Secondly, relatives expressed a somewhat different pattern of needs than patients, which indicates that their input is vital for comprehensive assessment and management of needs in BD. Lastly, despite some differences the overall pattern in which economic and welfare needs superseded treatment and social needs was very similar across BD and schizophrenia. This suggests that socio-cultural and health-service related factors have a relatively greater impact on the pattern of needs than diagnostic categories. Though examination of health-care needs in BD remains a priority area for further research, it is equally important for future studies to incorporate the socio-cultural context while examining health-care needsof remitted BD, since this appears to be the appropriate way improves the treatment and outcome of BD.

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**COMMENTS**

***Background***

Elicitation of health-care needs in any group of patients serves as a comprehensive index of psychosocial outcome of the disorder. Such assessments also provide a picture of needs from the perspective of patients and their relatives indicating areas that could be targeted to improve the outcome of the disorder. Despite the obvious implications of examining health-care needs of patients, very few studies have chosen to focus exclusively on examining needs among patients with bipolar disorder (BD), particularly during phases of remission. This contrasts with the large amount of literature available on needs of patients with schizophrenia.

***Research frontiers***

The type of health-care needs is heavily dependent on the socio-cultural setting and the nature and quality of the local health-care services. However, very few studies from developing countries have undertaken comprehensive assessments of health-care needs among patients with mental illnesses. This information is necessary for judicious allocation of resources for treatment of mental illnesses in these countries.

***Innovations and breakthroughs***

Given the paucity of research in the area, this study attempted to assess health-care needs and their correlates in BD during remission, compared to remitted schizophrenia. The relatively novel findings of this study were: (1) patients with BD even when they were in remission had wide ranging health-care needs, many of which were unmet; (2) impaired functioning, residual symptoms and quality of life (QOL) emerged as the principal mediators of total and unmet needs; (3) relatives reported more needs than patients and a somewhat different pattern of needs than patients; and (4) despite some differences the overall pattern in which economic and welfare needs superseded treatment and social needs was very similar across BD and schizophrenia indicating that socio-cultural and health-service related factors have a relatively greater impact on the pattern of needs than diagnostic categories

***Applications***

The implications of these findings for the treatment of BD are that: (1) the presence of unmet health-care needs is an additional marker of the enduring psychosocial impairment characteristic of remitted BD; accordingly, treatment of BD should place greater emphasis on addressing the unmet needs of patients with BD even after patients achieve remission; (2) the input provided by relatives is vital for comprehensive assessment and management of needs in BD; and (3) it is important for future studies to incorporate the socio-cultural context while examining health-care needs in order to improve the treatment and outcome of BD.

***Terminology***

Health-care needs: The National Health Service and Community Care Act, 1990 defines “need” as the “requirement of the individual to achieve, maintain and restore an acceptable level of social independence and QOL”. A health-care need is considered to be present when because of symptoms, distress or disability the subject’s level of functioning falls below the optimum, and this is due to some potentially remediable or preventable cause.

***Peer-review***

The manuscript is relatively well-written and easy to follow.

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**Table 1 Profile of patient and their relatives**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Patients** | **Relatives** |  |
|  | **Bipolar disorder**(*n* = 150) | **Schizophrenia**(*n* = 75) | **Bipolar disorder**(*n* = 150) | **Schizophrenia**(*n* = 75) |  |
| **Age (yr)**mean (SD) | 36.1 (10.1) | 33.4 (9.9) | 42.3 (12.8) | 43.7 (11.7) |  |
| **Gender** *n* (%)Male Female | 101 (67)49  | 42 (56) 33  | 64 86 (57) | 46 (61)a29  | Relatives’ gender *χ*2 = 6.74; *P* < 0.01 |
| **Marital status** *n* (%)Not marriedMarried | 43 107 (71) | 35 40 (53)a | 12 138 (92) | 05 70 (93) | Marital status of patients *χ*2 = 7.15; *P* < 0.01  |
| **Years of schooling**mean (SD)  | 11.4 (4.9) | 11.5 (4.4) | 11.1 (5.9) | 11.6 (6.24) |  |
| **Occupation** *n* (%) Paid employmentOthers | 103 (69)47  | 27 48 (64)b | 72 78 (52) | 44 (59)31  | Occupation of patients *χ*2 = 21.87; *P* < 0.001  |
| **Family type** *n* (%)Nuclear Non-nuclear | 69 81 (54) | 35 40 (53) |  |  |  |
| **Residence** *n*(%)Urban Rural | 86 (57) 64  | 39 (52)36  |  |  |  |
| **Relationship with the patient** *n* (%)SpouseParentsSibsOthers |  |  | 68 (45%)48 (32%)16 (11%)18 (12%) | 17 (23)a30 (40)14 (19)14 (19) | *χ*2 = 11.69; *P* < 0.01 |
| **Age of onset (in years)**mean (SD) | 26.7 (9.5) | 26.1 (12.7)  |  |  |  |
| **Duration of illness (mo)**mean (SD) | 110.3 (78.9)  | * 1. (65.9)
 |  |  |  |
| **Duration of treatment (mo)**mean (SD) | 99.1 (69.5) | 100 (94.3) |  |  |  |
| **Number of hospitalizations in the past**mean (SD) | 0.7 (1.0) | 0.5 (0.9)  |  |  |  |
| **PANSS positive score**mean (SD) | - | 10.6 (5.6) |  |  |  |
| **PANSS negative score**mean (SD) | - | 12.3 (7.2) |  |  |  |
| **PANSS general psychopathology score**mean (SD) | - | 27.4 (12.6) |  |  |  |
| **YMRS score**mean (SD) | 2.0 (3.1) | - |  |  |  |
| **HDRS score**mean (SD) | 1.0 (2.1) | - |  |  |  |
| **GAF score**mean (SD) | 70.07 (17.79) | 66.63 (15.63) |  |  |  |
|  **WHOQOL-BREF scores** mean (SD) | 93.87 (15.17)  | 88.77 (17.85)  |  |  |  |

a*P* < 0.01; b*P* < 0.001: Comparisons between BD and schizophrenia on marital status and occupation of patients, relatives’ gender and relationship with patient. PANSS: Positive and Negative Syndrome Scale for Schizophrenia; YMRS: Young Mania Rating Scale; HDRS: Hamilton Depression Rating Scale; GAF: Global Assessment of Functioning; WHOQOL-BREF: World Health Organization Quality of Life Bref version; BD: Bipolar disorder.

**Table 2 Health-care needs on the Camberwell Assessment of Need-Research version- as reported by patients**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bipolar disorder *n* = 150** | **Schizophrenia  *n* = 75** | ***t* values** |
| **Total needs -** mean (SD) | 6.03 (2.87) | 7.45 (2.80) | 3.54c |
| **Met needs -** mean (SD) | 3.92 (2.21) | 4.58 (2.32) | 2.07a |
| **Unmet needs -** mean (SD) | 2.1 (1.70) | 2.87 (1.88) | 3.01b |
| **Domains** | **Total needs***n* (%) | **Met****needs***n* (%) | **Unmet****needs***n* (%) | **Total needs***n* (%) | **Met****needs***n* (%) | **Unmet****needs***n* (%) | ***χ*2** values |
| **Accommodation** | 11 (7) | 11 (7) | 0 (0) | 9 (12) | 7 (9) | 2 (3) | 1.34  |
| **Food** | 16 (11) | 16 (11) | 0 (0) | 12 (16) | 10 (13) | 2 (3) | 1.30  |
| **Household skills** | 92 (61) | 86 (57) | 6 (4) |  55 (73) | 52 (69) | 3 (4) | 3.17  |
| **Self care** | 28 (19) | 25 (17) | 3 (2) | 18 (24) | 15 (20) | 3 (4) | 0.87  |
| **Daytime activities** | 65 (43) | 44 (29) | 21 (14) | 41 (55) | 21 (28) | 20 (27) | 2.57  |
| **Physical health** | 68 (45) | 47 (31) | 21 (14) | 32 (43) | 27 (36) | 5 (7) | 0.14  |
| **Psychotic symptoms** | 44 (29) | 38 (25) | 6 (4) | 67 (89) | 60 (80) | 7 (9) | 72.01c |
| **Information about condition and treatment** | 106 (71) | 61 (41) | 45 (30) | 60 (80) | 24 (32) | 36 (48) | 2.25  |
| **Psychological distress** | 87 (58) | 73 (49) | 14 (9) | 40 (53) | 32 (43) | 8 (11) | 0.44  |
| **Safety to self** | 14 (9) | 14 (9) | 0 (0) | 5 (7) | 4 (5) | 1 (1) | 0.46 |
| **Safety to others** | 21 (14) | 16 (11) | 5 (3) | 8 (11) | 5 (7) | 3 (4) | 0.49  |
| **Alcohol** | 8 (5) | 8 (5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 2.73  |
| **Drugs** | 13 (9) | 8 (5) | 5 (3) | 4 (5) | 1 (1) | 3 (4) | 0.39  |
| **Company** | 74 (47) | 36 (24) | 38 (25) | 50 (67) | 24 (32) | 26 (35) | 6.07a |
| **Intimate relationships** | 17 (11) | 7 (5) | 10 (7) | 10 (13) | 3 (4) | 7 (9.3) | 0.04  |
| **Sexual expression** | 14 (9) | 9 (6) | 5 (3) | 3 (4) | 0 (0) | 3 (4) | 1.34 |
| **Child care** | 21 (14) | 18 (12) | 3 (2) | 10 (13) | 6 (8) | 4 (5) | 0.019  |
| **Basic education** | 9 (6) | 7 (5) | 2 (1) | 7 (9) | 6 (8) | 1 (1) | 0.84  |
| **Telephone** | 33 (22) | 28 (19) | 5 (3) | 27 (36) | 23 (31) | 4 (5) | 5.01a |
| **Transport** | 19 (13) | 14 (9) | 5 (3) | 18 (24) | 12 (16) | 6 (8) | 4.67a |
| **Money** | 30 (20) | 22 (15) | 8 (5) | 30 (40) | 12 (16) | 8 (11) | 10.22a |
| **Welfare benefits** | 114 (76) | 1 (1) | 113 (75) | 63 (84) | 0 (0) | 63 (84) | 1.91  |

a*P*< 0.05; b*P*< 0.01; c*P*< 0.001: Comparisons between BD and schizophrenia on total, met and unmet needs and different types of needs. BD: Bipolar disorder.

**Table 3 Health-care needs of patients on the Camberwell Assessment of Need-Research version- as reported by their relatives**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bipolar disorder *n* = 150** | **Schizophrenia  *n* = 75** | ***t* values** |
| **Total needs** | 6.72 (3.19) | 8.36 (2.91) | 3.37e |
| **Met needs** | 4.15 (2.34) | 4.99 (2.18) | 2.57a |
| **Unmet needs** | 2.57 (2.31) | 3.37 (2.58) | 2.37a |
| **Domains** | **Total needs** | **Met****needs** | **Unmet****needs** | **Total needs** | **Met****needs** | **Unmet****needs** | ***χ*2 values** |
| **Accommodation** | 12 (8) | 11 (7) | 1 (1) | 15 (20) | 13 (17) | 3 (4) | 6.82b |
| **Food** | 32 (21) | 30 (20) | 2 (1) | 23 (31) | 20 (27) | 3 (4) | 2.35  |
| **Household skills** | 103 (69) | 90 (60) | 13 (9) | 63 (84) | 56 (75) | 7 (9) | 6.07a |
| **Self-care** | 36 (24) | 31 (21) | 5 (3) | 25 (33) | 19 (25) | 6 (8) | 2.20  |
| **Daytime activities** | 77 (51) | 51 (34) | 26 (17) | 43 (57) | 21 (28) | 22 (29) | 0.72  |
| **Physical health** | 79 (53) | 62 (41) | 17 (11) | 39 (52) | 31 (41) | 8 (11) | 0.01  |
| **Psychotic symptoms** | 47 (31) | 37 (25) | 10(7) | 69 (92) | 59 (79) | 10 (13) | 73.68e |
| **Information about condition and treatment** | 106 (71) | 62 (41) | 44 (29) | 60 (80) | 17 (23) | 43 (57) | 2.251 |
| **Psychological distress** | 87 (58) | 70 (47) | 17 (11) | 49 (65) | 39 (52) | 10 (13) | 1.12  |
| **Safety to self** | 8 (5) | 8 (5) | 0 (0) | 6 (8) | 5 (7) | 1 (1) | 0.61  |
| **Safety to others** | 31 (21) | 19 (13) | 12 (8) | 14 (19) | 9 (12) | 5 (7) | 0.12 |
| **Alcohol** | 11 (7) | 8 (5) | 3 (2) | 2 (3) | 2 (3) | 0 (0) | 1.23  |
| **Drugs** | 18 (12) | 5 (3) | 13 (9) | 4 (5) | 2 (3) | 2 (3) | 1.82  |
| **Company** | 83 (55) | 37 (25) | 46 (31) | 45 (60) | 18 (24) | 27 (36) | 0.44  |
| **Intimate relationships** | 25 (17) | 10 (7) | 15 (10) | 12 (16) | 3 (4) | 9 (6) | 0.02  |
| **Sexual expression** | 13 (9) | 5 (3) | 8 (5) | 2 (3) | 0 (0) | 2 (3) | 2.01  |
| **Child care** | 25 (17) | 20 (13) | 5 (3) | 12 (16) | 8 (11) | 4 (5) | 0.02  |
| **Basic education** | 8 (5) | 5 (3) | 3 (2) | 7 (9) | 6 (8) | 1 (1) | 1.28  |
| **Telephone** | 34 (23) | 28 (19) | 6 (4) | 25 (33) | 21 (28) | 4 (5) | 2.94  |
| **Transport** | 26 (17) | 13 (9) | 13 (9) | 24 (32) | 14 (19) | 10 (13) | 6.22a |
| **Money** | 31 (21) | 20 (13) | 11 (7) | 24 (32) | 10 (13) | 14 (19) | 3.47  |
| **Welfare benefits** | 117 (78) | 1 (1) | 116 (77) | 66 (88) | 1 (1) | 65 (87) | 3.29  |

a*P* < 0.05; b*P* < 0.01; e*P* < 0.001: Comparisons between BD and schizophrenia on total, met and unmet needs and different types of needs. 1Between A significantly greater proportion of relatives than patients with schizophrenia reported that needs in the area of information about the condition and its treatment were unmet (*χ*2 = 13.79; *P* < 0.01). BD: Bipolar disorder.

**Table 4 Additional areas of needs: Patients’ and relatives’ reports1**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bipolar disorder-mean (SD)****(*n* = 150)** | **Schizophrenia -mean (SD)****(*n* = 75)** | ***t* values** |
| **Needs of patients reported by patients** |
| Total needs | 2.39 (1.87) | 3.08 (2.08) | 2.52 a |
| Met needs | 0.23 (0.61) | 0.27 (0.64) | 0.38  |
| Unmet needs | 2.15 (1.73) | 2.81 (1.9) | 2.6a |
| **Needs of patients reported by relatives** |
| Total needs | 2.67 (2.26) | 3.33 (2.13) | 2.13 a |
| Met needs | 0.19 (0.49) | 0.48 (1.37) | 2.29 a |
| Unmet needs | 2.47 (2.09) | 2.85 (1.82) | 1.34  |
|  | **Patients** | **Relatives** |
| **Seven common areas of additional needs-bipolar disorder (*n* = 150)** | **Total needs** | **Met needs** | **Unmet needs** | **Total needs** | **Met needs** | **Unmet needs** |
| 1. Free treatment
 | 69 | 4 | 65 | 4 | 65 | 70 |
| 1. Medical reimbursement
 | 56 | 3 | 53 | 3 | 53 | 67 |
| 1. Job reservations/ occupational help
 | 42 | 1 | 41 | 1 | 41 | 44 |
| 1. Financial help
 | 35 | 4 | 31 | 4 | 31 | 44 |
| 1. Psychoeducation
 | 30 | 10 | 20 | 10 | 20 | 29 |
| 1. Travel concessions
 | 20 | 2 | 18 | 2 | 18 | 24 |
| 1. Patient groups, clubs, societies
 | 17 | 0 | 17 | 0 | 17 | 22 |
| **Seven common areas of additional needs - schizophrenia (*n* = 75)** |  |  |  |  |  |  |
| 1. Medical reimbursement
 | 53 | 0 | 53 | 50 | 1 | 49 |
| 1. Free treatment
 | 44 | 0 | 44 | 48 | 1 | 47 |
| 1. Job reservations/ occupational help
 | 35 | 1 | 34 | 32 | 4 | 28 |
| 1. Financial help
 | 28 | 1 | 27 | 30 | 1 | 29 |
| 1. Psychoeducation
 | 19 | 6 | 13 | 15 | 7 | 8 |
| 1. Travel concessions
 | 12 | 0 | 12 | 15 | 2 | 13 |
| 1. Certification needs
 | 11 | 1 | 10 | 11 | 4 | 7 |

a*P* < 0.05: Comparisons between BD and schizophrenia on total, met and unmet needs and different types of needs.1This additional evaluation was carried out using an instrument designed to cover those areas of needs not specifically covered by the CAN-R; it had 21 areas with a format similar to the CAN-R; only results pertaining to the seven most common needs are depicted. CAN-R: Camberwell Assessment of Need-Research version; BD: Bipolar disorder.

**Table 5 Correlates of health-care needs1,2**

|  |  |  |
| --- | --- | --- |
| **Univariate associations** | **CAN-R scores as per patients’ reports (*n* = 225)** | **CAN-R scores as per caregivers’ reports (*n* = 225)**  |
| **Met needs** | **Unmet needs** | **Total needs** | **Met needs** | **Unmet needs** | **Total needs** |
| Duration of illness | -0.237 |  |  |  |  |  |
| GAF scores |  | -0.422 |  |  | -0.553 | -0.443 |
| WHOQOL total scores |  | -0.294 |  |  | -0.367 | -0.306 |
| WHOQOL general |  | -0.288 |  |  | -0.276 | -0.306 |
| WHOQOL physical health |  |  |  |  | -0.3 |  |
| WHOQOL psychological |  | -0.267 |  |  | -0.287 | -0.295 |
| WHOQOL social relationship |  | -0.287 |  |  | -0.304 | -0.249 |
| WHOQOL environment |  |  |  |  | -0.337 | -0.242 |
| **Multiple regression analyses** |
|  | **Unmet needs - patients’ reports** | **Unmet needs - relatives’ reports** |
|  | R square | Adjusted R square | R square | Adjusted R square |
| GAF | 0.203 | 0.199 | 0.291 | 0.288 |
| GAF, PANSS positive | 0.270 | 0.264 | 0.340 | 0.334 |
| GAF, PANSS positive, Psychological Health domain of WHOQOL- BREF | 0.293 | 0.283 | 0.361 | 0.353 |
|  |  |  | **Total needs - relatives’ reports** |
| GAF |  |  | 0.182 | 0.178 |
| GAF, PANSS positive |  |  | 0.236 | 0.229 |
| GAF, PANSS positive, Psychological Health domain of WHOQOL- BREF |  |  | 0.258 | 0.248 |

1Pearson’s Product Moment Correlation coefficients or Spearman’s Rank Correlation coefficients; 2Only those significant associations that persisted after adjusting for multiple correlations using Bonferroni correction are depicted. Bonferroni value = 0.05/60 = 0.00083. CAN-R: Camberwell Assessment of Need-Research version; GAF: Global Assessment of Functioning; WHOQOL-BREF: World Health Organization Quality of Life Bref version; PANSS: Positive and Negative Syndrome Scale for Schizophrenia; BD: Bipolar disorder.