Evaluation of Met and Unmet Needs in Patients with Severe Psychiatric Disorders and its Relation to the Quality of Life: A Cross-Sectional Study

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Abstract

Background: Paying attention to the needs of patients with psychiatric disorders has recently come into focus. Failure to meet the needs of patients can affect their quality of life. This study aimed to determine the main areas of the needs of patients with severe psychiatric disorders and evaluate their relationship with the quality of life.

Methods: In this cross-sectional study, 174 patients with severe mental illness who were referred to Iran Psychiatric Hospital for hospitalization or outpatient treatment were enrolled in this study (68 with schizophrenia and schizoaffective disorder, 106 with bipolar disorder type 1). A qualified psychiatry resident conducted interviews with each patient to determine their needs using the Camberwell Assessment of Need Short Appraisal Schedule (CANSAS) and the severity of their illness using the Hamilton Depression Rating Scale (HAM-D), Positive and Negative Syndrome Scale (PANSS), and Young Mania Rating Scale. A checklist for demographic data and the World Health Organization Quality of Life Brief Version (WHOQOL-BREF) questionnaire was completed by patients. Data were analyzed using descriptive statistics. Since the number of needs distribution was not normal, we used the Mann-Whitney, Kruskal-Wallis, and chi-square tests for qualitative variables.

Results: The total number of patient needs was 9 (mean = 9.1, SD = 3.7). The most unmet needs were intimate relationships (69.5%), sexual expression (65.5%), and information on condition and treatment (51.1%). Unmet needs showed a negative correlation with the quality of life ($P < 0.001$) and a positive correlation with the severity of depression ($P = 0.045$), negative symptoms ($P = 0.001$), and general psychopathology ($P < 0.001$).

Conclusion: A higher number of unmet needs of severe psychiatric patients is associated with lower quality of life and more severe disorders.

Keywords: Bipolar Disorder, Needs Assessment, Quality of Life, Schizophrenia

Introduction

According to The Iranian Mental Health Survey in 2011, the prevalence of "any psychiatric disorder" among the Iranian population was 23.6%; and 63.8% of them suffered from moderate to severe illness (1). Based on a recent study in Iran, using the Global Burden of Disease Study 2019, mental disorders and substance use disorders caused a 193.6% increase in total disability-adjusted life-years from 1990 to 2019 (0.7% vs 1.9%) (2).

There is no unique definition for "severe mental illness"; however, in several Iranian studies, schizophrenia,

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↑What is "already known" in this topic:
There is an emerging need for attention to patients' needs to tailor their treatments. Unmet needs are generally associated with lower quality of life for patients with severe psychiatric disorders.

→What this article adds:
Patients' needs profile were determined for better understanding of the patients. This is the first step to designing and developing interventions to improve the treatment outcomes.

schizoaffective disorder, and bipolar disorder type 1 are mentioned as severe mental illnesses (3-6).

Paying attention to the needs of patients with mental disorders is one of the indispensable topics that has been considered nowadays. The most agreed definition for needs is as follows: "the requirement of the individual patient to enable him to achieve, maintain or restore an acceptable level of social independence, and quality of life" (7). When a patient has a serious need and gets little or no assistance, it is considered an unmet need. A met need is a need area that the patient has no problem with because the intervention or help he received was adequate (8). Evaluating mental health services according to patient needs is a critical factor for developing and optimizing these services (9-11). The Camberwell Assessment of Needs (CAN) was created in 1995 to assess the needs of people with mental disorders (8). Since then, numerous studies evaluated psychiatric patient needs and factors that influence them in many countries. More unmet needs were related to illness severity (12), socioeconomic status (13), lower quality of life (3), and more emergency department visits (14). Also, needs profiles were different among different countries and cultures (15).

There is an emerging need to tailor the treatment based on each patient's needs and the health care system based on community needs (11). Community-based mental health services are growing in Iran (16). However, there is a lack of information about patient needs to personalize and optimize these services. In this study, we aimed to evaluate the met and unmet needs of patients with severe mental illness and their relation to illness severity and quality of life. This will be a stepping stone for prioritizing community-based programs and helping better understand our patients.

Methods

In this cross-sectional study, patients with schizophrenia, schizoaffective disorder, and type 1 bipolar disorder who were referred to Iran Psychiatric Hospital from summer 2020 to summer 2021 were included (both inpatient and outpatient). The following were the criteria we had for inclusion: (1) providing informed consent to participate in the study; (2) a physician's diagnosis of schizophrenia or bipolar schizoaffective disorder type 1 based on the DSM-5 criteria based on the patient's documents; (3) not having a physical illness that would preclude the patient from taking part in a clinical interview, such as a medical condition that would prevent them from speaking; and (4) being able to read the questionnaires based on the patient's educational background. Illness severity was not an inclusion criterion. However, patients with more severe symptoms were not able to participate in the study because of attention problems and severe negative and psychotic symptoms. Also, comorbid psychiatric disorders, (whether substance use disorders, personality disorders, or mood and anxiety disorders, did not prevent the individual from entering the study.

Ward and clinic staff were asked to refer eligible patients for the study. Following an interview regarding the study's goals and methodology, eligible patients were invited to participate in the study if they or their legal guardian had read and signed the informed consent form. All those referred for the study were assessed by a trained psychiatry resident to meet the inclusion criteria. Patients completed questionnaires and were interviewed in 1 session.

After the study was done, due to the low frequency of patients with schizoaffective disorder and the similarity of their needs with the group of patients with schizophrenia, these 2 groups were merged for analysis.

Sample Size

Assuming that the frequency was unclear, the accuracy was 7.5%, and the first type error was equal to 0.05, 171 participants were required to investigate using the following method for estimating a proportion in order to estimate the sample size for required frequency estimation. Despite being included in the final analysis, the number of participants in each diagnostic group was inconsequential. Sampling was performed using the convenient sampling method. Inpatients and outpatients were not separated.

The sample size formula needed for estimating the proportion is as follows:

$$n = \frac{z^2 p(1-p)}{d^2}$$

Limitations

To avoid recall bias, symptom severity and some needs like psychotic symptoms were checked with patients' documents in addition to the psychiatric interview. To minimize the selection bias, we hardly tried to enroll depressed patients (not just manic patients) to evaluate the effect of depression on needs and quality of life perception. Unfortunately, because of COVID-19 restrictions and limited extra rooms for interviews, we could not enroll enough outpatient participants to study them as a distinct group.

Measures

The Camberwell Assessment of Needs Short Appraisal Schedule (CANSAS) questionnaire was first introduced in the 1990s. It is completed by a structured interview. For every 22 domains of needs, the patient is asked the following questions: (1) Whether they had a serious problem in that domain in 4 previous weeks. And if yes, have they received enough help? the following scoring scheme will apply: (1) If the patient has no serious problem and no need, it scores 0; (2) If the need was met, that is, the problem resolved due to the help he has received, this scores 1; (3) If it is important whether they received help or not, it is an unmet need that scores 2; and (4) when the patient does not wish to answer or is unsure, this scores 9 as unspecified need. To avoid personal interpretations, it is necessary to enter the interviewee's answer without judgment and with the same phrases (17). The psychometric properties of the Persian version of the CANSAS were assessed in a residency dissertation at Iran University of Medical Sciences. The Persian version demonstrated good interrater reliability with nearly complete agreement in 17

domains and only 1 area (substance use) with a kappa of 0.37, according to the results. Validity on both the face and content was likewise accepted. The outcome has not yet been released as an article (18).

The World Health Organization Quality of Life Brief Version (WHOQOL-BREF) is a 26-item questionnaire introduced by the World Health Organization (WHO) to estimate the quality of life in the last 4 weeks. The Persian version has been validated in 2010 with a Cronbach's alpha of >0.7 in all domains (19).

The Young Mania Rating Scale consists of 11 domains and is filled out by a psychiatrist. It can assess the severity of the disorder according to international standards. Each of the 11 questionnaire titles has a score between 0 and 4 or 0 and 8, and its final score is between 0 and 60, with higher scores indicating higher severity of the disorder. The Persian version was validated in 2018, and the Cronbach's alpha was 0.72 (20).

The Positive and Negative Symptoms Scale (PANSS) includes 30 questions in the areas of positive and negative symptoms and general symptoms, which is filled by a trained professional or a psychiatrist. The Cronbach's al-

pha for the Persian version was reported as 0.8 (21), and interrater reliability was 0.71 (22).

The Hamilton Depression Scale (HAM-D) is a widely used scale for assessing the severity of depression and consists of 17 items. The Cronbach's alpha for the Persian version of this scale is 0.89 (23).

Statistical Analysis

All the data were analyzed using SPSS-26. We used mean, standard deviation, median, and range to describe quantitative variables. For qualitative variables, we reported frequency. The data distribution was assessed using the Kolmogorov-Smirnov test. Since the number of needs distribution was not normal, we used the Mann-Whitney, Kruskal-Wallis, and chi-square tests for qualitative variables. In all cases, $P < 0.05$ was considered statistically significant.

Results

A total of 174 patients (117 men and 57 women), of whom 60 had schizophrenia, 8 had schizoaffective disor-

Table 1. Patients' Demographic Information

Variable	Level	Number	Percent
Gender	Male	117	67.2
	Female	57	32,8
Marital status	Single	100	75.5
	Married	52	29.9
	Divorced	18	10.3
	Widow	4	2.3
Education	Illiterate	3	1.7
	Below diploma	58	33.3
	Diploma	78	44.8
	University education	35	20.1
Residential status	Homeless	6	3.4
	Dormitory resident	1	0.6
	Settled	167	96.0
Employment and income	Unemployed without salary	110	63.2
	Unemployed with salary	15	8.6
	Employed without salary	6	3.4
	Employed with salary	43	247
Average monthly income (Rials)	No income	115	66.1
	Below 10 million	7	4.0
	Between 10 and 50 million	30	17.2
	Over 50 million	16	9.2
	Unidentified	3	3.4
Diagnosis	Schizophrenia	60	34.5
	Bipolar type 1	106	60.9
	Schizoaffective disorder	8	4.6
Admit times to hospital	No admit	3	1.7
	One	31	17.8
	Two or three	55	31.6
	Four or more	69	39.7
	Unidentified	16	9.2
Disease duration (years)	Below 1	9	5.6
	1-3	13	7.5
	3_10	78	44.8
	Over 10	61	35.1
	Unidentified	13	7.5
Duration since last admit (months)	Below 1	34	20.9
	1-6	26	14.9
	6-12	23	13.2
	12-24	31	17.8
	Over	49	28.2
	Unidentified	11	6.3
Insurance	Yes	162	93.1
	No	10	5.7
	Unidentified	2	1.1

der, and 106 had bipolar disorder type 1 were enrolled in the study. The mean age was 36.7 ± 9.9 years (median, 35.5 years; range, 19-75 years). In our study, the median number of hospitalizations was 3 times (0 to 30 times), the median duration of illness was 10 years (0 to 35 years), and the median distance from the last hospitalization was 11 months (0 to 14 years). According to these findings, each patient is hospitalized approximately 1 time every 3 years for the illness. The contextual and clinical characteristics of these patients are shown in Table 1.

The median number of met, unmet, and overall needs were 3, 5, and 9, respectively—half of the study population had at least 5 unmet needs (Table 2). The top 5 unmet needs were intimate relationships (69.5%), sexual expression (65.5%), information on condition and treatment (51.1%), company (50%), and psychotic symptoms (44.3%). The top 3 met needs were information (47.1%), psychotic symptoms (33.9%), and looking after the home

(32.2%), respectively (Table 3).

The number of met needs, unmet needs, and total needs were similar in patients with schizophrenia and schizoaffective disorder ($P = 0.184$; $P = 0.135$; $P = 0.841$); nonetheless, the number of needs in both groups was significantly higher than in patients with type 1 bipolar disorder ($P < 0.001$) The number of unmet needs had a significant positive correlation with the number of hospital admissions (Spearman's $\rho = 0.283$; $P < 0.001$). In contrast, the number of total needs was negatively correlated with their average income ($P = 0.002$).

In Table 4, the total number of needs was negatively correlated with quality of life ($P < 0.001$) and positively and significantly correlated with the severity of negative symptoms ($P = 0.030$) and general psychopathology ($P = 0.007$). Unmet needs also showed a negative correlation with the quality of life ($P < 0.001$) and a positive correlation with the severity of depression ($P = 0.045$), negative

Table 2. Descriptive Evaluation of Clinical Variables

Variable		Mean ± SD	Range	Median
Quality of life		82.2 ±18.9	130 – 34	83
Mania severity		28.7 ± 9.7	51 – 2	28.5
Depression severity		20.9 ± 7.2	34 – 7	21
PANSS domains	Positive symptoms	25.9 ± 7.6	42 – 9	26
	Negative symptoms	24.9 ± 8.1	46 – 7	24.5
	General psychopathology	47.2 ±10.4	74 – 21	47
	Total score	97.9 ± 22.2	151 – 37	98.5
Needs	Met needs	3.5 ± 2.2	13 – 0	3
	Unmet needs	5.3 ± 2.9	13 – 0	5
	Total needs	9.1 ± 3.7	22 – 1	9

Table 3. Distribution if Needed

Variable	Unidentified		Unmet Need		Met Need		No Need	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Accommodation	0	0	4	7	10.9	19	85.1	148
Food	0	0	5.7	10	23.0	40	71.3	124
Looking after home	2.9	5	2.9	5	32.2	56	62.1	108
Self-care	1.1	2	10.9	19	11.5	20	76.4	133
Daytime activities	1.1	2	27.0	47	13.8	24	58.0	101
Physical health	1.1	2	29.3	51	21.8	38	57.7	83
Psychotic symptoms	0	0	44.3	77	33.9	59	21.8	38
Information	0.6	1	51.1	89	47.1	82	1.1	2
Psychological distress	0.6	1	37.4	65	23.0	40	39.1	68
Safety to self	1.1	2	9.8	17	23.6	41	65.5	114
Safety to others	1.1	2	4.6	8	13.3	23	81.0	141
Alcohol	0.6	1	8.6	15	8.0	14	82.8	144
Drugs	0.6	1	23.6	41	11.5	20	64.4	112
Company	0	0	50.0	87	8.6	15	41.4	72
Intimate relationships	0.6	1	69.5	121	5.7	10	24.1	42
Sexual expression	8.0	14	65.5	114	9.2	16	17.2	30
Childcare	0.6	1	7.5	13	13.8	24	78.2	136
Basic education	0	0	8.0	14	3.4	6	88.5	154
Telephone	0.6	1	4.0	7	4.6	8	90.8	158
Transport	0.6	1	7.5	13	4.6	8	87.5	152
Money	2.3	4	27.0	47	13.8	24	56.9	99
Benefits	2.9	5	28.2	49	9.8	17	59.2	103

Table 4. Spearman Correlation Coefficients Between the Number of Patients' Needs and Psychiatric Symptoms and Their Quality of Life

Variables		Total Needs		Unmet Needs		Met Needs	
		P	Spearman's ρ	p	Spearman's ρ	P	Spearman's ρ
Quality of life		<0.001	-0.291	<0.001	-0.436	0.129	0.125
Mania severity		0.299	0.106	0.270	0.113	0.453	0.077
Depression severity		0.165	0.365	0.045	0.508	0.758	-0.084
Psychopathology (PANSS)	Positive symptoms	0.846	0.024	0.263	0.545	0.263	-0.136
	Negative symptoms	0.030	0.260	0.001	0.575	0.575	-0.068
	General psychopathology	0.007	0.319	<0.001	0.029	0.029	-0.261
	Total score	0.045	0.240	0.113	0.002	0.113	-0.191

symptoms (P = 0.001), and general psychopathology (*P* < 0.001). Met needs were positively and significantly correlated only with the severity of general psychopathology (*P* = 0.029).

According to the comparison between the 2 groups, there was no statistically significant difference in sex distribution (*P* = 0.157), level of education (*P* = 0.355), and number of hospital admissions (*P* = 0.509). The quality of life of patients with type 1 bipolar disorder was significantly higher than that of the other group (*P* = 0.002)

A significant difference was seen between the 2 groups in needs type. Some unmet needs were significantly higher in the schizophrenia and schizoaffective disorder group. These were looking after home (*P* = 0.002), daytime activities (*P* = 0.014), psychological distress and psychotic symptoms (*P* < 0.001), company (*P* < 0.001), intimate relationships (*P* = 0.039), money (*P* = 0.002), and benefits (*P* < 0.001). While unmet needs about alcohol and child care were significantly higher in the bipolar disorder group (*P* = 0.009; *P* = 0.045).

Discussion

According to this study, the median number of total needs, met needs, and unmet needs among severe psychiatric patients were 9, 3, and 5, respectively. Unmet needs had no relationship with any of the demographic factors. Among the needs, intimate relationships, sexual expression, information, company, psychotic symptoms, and psychological distress were mainly unmet. More numbers of unmet needs were also related to lower quality of life, more hospital admissions, and more severe symptoms (in general psychopathology, negative and depressive symptoms). Unmet needs in the schizophrenia and schizoaffective disorder group were significantly higher than in the bipolar disorder type 1 group, and the latter group had a higher quality of life.

However, due to the differences in the studies in terms of study design, symptom severity, mental health care systems, and socioeconomic status, the number of needs cannot be compared precisely. Still, in general, studies that evaluate more severe and inpatient participants reported a more significant number of needs (12, 24). However, studies with outpatient participants and less illness severity reported fewer needs (25, 26). Identical to our results, numerous studies have reported high unmet patient needs for intimate relationships, sexual expression, information on condition and treatment, psychological distress, and psychotic symptoms (12, 27, 28).

In this study, a significant percentage of our patients (>80%) reported no issues with alcohol, phones, housing, transportation, or education. Even with patients' minimal need for accommodations, one of the most unmet demands was psychological suffering. A study in Australia discussed the relationship between unmet needs for housing and the frequency of needs. They highlighted the need for more comprehensive interventions for patients with lower ability and functional levels. Because these patients had a complex need profile, providing a house will not satisfy all of them (28).

The lower need for housing in our study compared with

previous studies may be due to the supportive role of the family in Persian culture. A similar cultural difference was observed in a valuable research comparing the needs of patients with schizophrenia in 5 European countries. In that study, in countries where the role of the family was more prominent in supporting patients, patients did not have a significant problem with accommodation and did not report a need. The point was that there were substantial differences between the needs of patients in these 5 countries: unmet needs were higher in crowded urban areas. On the other hand, countries also differed in the type of needs, which could be due to differences in the services, cultural differences, and patient expectations. Also, in cases with more severe symptoms and lower functional levels, unmet needs were higher (15).

One of the limitations of our study was the lack of any follow-up; thus, we could not follow the possible changes of needs and quality of life after recovery and over time. Issacs et al showed that after a 2-year follow-up of patients with severe mental illness and with the interventions carried out, up to 90% of the patients experienced a significant reduction in the number of their needs (29).

In our study, although most patients were hospitalized, the unmet need for benefits was still among the most common needs of patients, which may be because of the neuropsychiatric dysfunctions of severe mental illnesses and their level of function. The patients were also primarily unemployed. A study in Brazil assessed the requirements for patients 4 years after their first psychiatric hospitalization. They reported benefits as the most unmet need. In this study, which also included patients with substance-related disorders, the unmet need for psychotic symptoms was only 9%, which is significantly different from the current study due to the higher severity of the disorder and the higher percentage of schizophrenia disorders in our patients. This issue shows the change in patients' needs during the disorder (13).

In the present study, there was no significant relationship between patients' needs (including met and unmet needs) and patients' age. This was consistent with other similar studies that did not report an association between age and the needs of patients with severe psychiatric disorders (27, 30).

In this study, it was found that the number of unmet needs and total needs were higher in women than in men. However, there was no difference in unmet needs in terms of sex. On the other hand, there was no relationship between patients' needs, education level, and marital status. Although some needs are directly related to education, it seems that it could not affect our study's total number of needs. Maybe this should be examined in a well-controlled study. In a study by Ashour et al to explore the relationship between sex and the needs of patients with schizophrenia, although the total number of needs of women was reported to be higher than men, this relationship was not statistically significant (27). In another study, there was a significant relationship between the level of education and the needs of patients with schizophrenia; thus, the higher the level of education, the lower the number of unmet needs (30).

Between the 2 groups of patients (bipolar disorder vs schizophrenia and schizoaffective disorder), there was no significant difference in sex, education level, residence status, insurance coverage, and use of daycare centers. Employment and income status in bipolar disorder were significantly better than in the other group. More people in the bipolar disorder group were married than in the other groups. Similarly, in an extensive epidemiological study in Scandinavia, data from all patients with schizophrenia and bipolar disorder were reviewed over 7 years. The results showed that despite an apparent decrease in the employment rate of patients after the first episode of the disorder, patients with bipolar disorder were still more employed. Also, the level of education and marriage was lower in the group with schizophrenia (31).

Regarding the risk factors associated with psychiatric hospitalization in the population of patients with schizophrenia, in a previous study in Iran, patients were hospitalized at a mean of 5.2 times in life, and the mean duration of the disorder was 8.8 years (6). We found a reduction in the number of hospitalizations of patients with severe mental illness over the past few years, and this may be because of the progression of community reentry programs and the emphasis on patient psychoeducation in past years. Another study in India in the same year reported a mean duration of illness in patients with schizophrenia of 73.8 months (equivalent to approximately 6 years) (32).

In our study, the number of unmet needs in patients with bipolar disorder was lower than in patients with schizophrenia and schizoaffective disorder, which was statistically significant. On the other hand, quality of life scores were higher in patients with bipolar disorder compared with the other group. the literature review showed different results in this field. Researchers found that compared to patients with schizophrenia, those with bipolar illness had substantially fewer needs—both met and unmet (25). On the other hand, a recent study in a population of psychiatric patients in Spain found no difference in the most common types of needs between patients with bipolar disorder and schizophrenia. However, the number of total and unmet needs was higher in patients with schizophrenia. They mentioned that sociocultural factors influence needs more than the disorder type (12).

The type of unmet needs and their frequency also differed between the 2 groups of patients. Few studies have compared the 2 groups of patients with schizophrenia and bipolar disorder. A study conducted in India showed that the total number of needs was similar between the 2 groups. However, patients with schizophrenia had significantly higher unmet needs for psychotic symptoms, company, telephone, transport, and benefits (25).

Our study showed that quality of life was negatively and significantly related to unmet and total needs. Also, a significant relationship was observed between unmet needs and the severity of depression, negative symptoms, and general psychopathology. Based on the results of a study comparing different types of supported housing programs for psychiatric patients in London, higher quality of life scores were associated with fewer unmet needs and living in more supportive homes (33). Also, in another study on the population of patients with schizophrenia and schizoaffective disorder, it was shown that more unmet needs were associated with lower quality of life, more severe illness, and more severe psychological distress (34). In the sample of psychiatric patients in Spain, ≥ 3 unmet needs were associated with higher severity of the disorder (12). In assessing the needs of patients with schizophrenia in India, there was a significant relationship between unmet needs and positive and negative symptoms, as well as general psychopathology (25). In our study, only a significant relationship was observed between negative symptoms and general psychopathology.

Conclusion

Despite all the efforts done in the last years about patient education and the development of community reentry programs, most of the patients with severe psychiatric disorders still had unmet educational needs about their disorders and treatments. More numbers of unmet needs were related to lower quality of life and higher illness severity in patients with severe psychiatric disorders.

Ethics Statement

The studies involving human participants were reviewed, and this research was approved by the Ethics Research Committee of Iran University of Medical Sciences (IRs.IUMS.FMD.REC.1399.160).

The patients/participants provided written informed consent to participate in this study.

Conflict of Interests

The authors declare that they have no competing interests.

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