

# Treatment and perspectives of patients diagnosed with psychiatric disorders living in rural areas in Jordan: identifying barriers and role of pharmacists.

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## Abstract

**Introduction:** Patient adherence is a cornerstone in successful management of psychiatric disorders and is affected by patient perspectives and barriers, differing from rural to urban areas. In this perspective, pharmacists have a vital role in identifying patients in need of help and in dealing with barriers to adherence. This paper investigates perspectives of patients diagnosed with psychiatric disorders, living in rural areas in Jerash, Jordan, regarding their awareness about their psychiatric conditions, including religious and cultural factors, adherence to their treatment and related barriers, with special focus on pharmacist's role. **Methods:** This cross-sectional survey study was conducted in Jordan from August to November 2019. A validated questionnaire was administered by two pharmacists, asking patients as they were waiting in the psychiatric clinic (following the specialists' approval). Data were analyzed using the Statistical Package for the Social Science (SPSS). **Results:** Most patients (n= 120, age 39.4±9.5, 66.7% males) reported that they always/usually adhere to their medications (71.0%), and 47.5% of them reported complete control of their symptoms after treatment. Most patients (69.2%) reported that they perceive their psychological illness in terms of religious faith as being counted for their favor in the Hereafter, and 52.5% of them always/usually looked at themselves positively and unaffected by the existence of their illness; with both factors correlating significantly with better treatment adherence ( $p < 0.045$  and  $p < 0.001$ ; respectively). Barriers affecting adherence included mainly suffering from adverse effects (31.9%) and being unconvinced that they needed a medication (23.3%). Only 14.2% of patients reported that they refer to the pharmacist to get information about their medications. **Conclusion:** Most psychiatric patients reported suboptimal control of their symptoms. Nonadherence is one reason, with barriers identified. Positive religious and cultural perspectives are associated with better adherence, and most patients do not refer to pharmacists for medication informatio

## What is already known about this topic?

The rate of psychological disorders continues to grow globally, affecting millions of people worldwide. Although primary healthcare teams exist in rural areas to provide services to chronically ill patients, including those diagnosed with psychiatric disorders, barriers exist. Identifying barriers and relationship of patient beliefs and values, and proper adherence can help in optimizing the management of patients.

## What does this article add?

This paper reports the perspectives of patients diagnosed with psychiatric illnesses, living in rural areas in Jerash, Jordan, regarding their awareness about their psychological conditions, including religious and cultural factors, adherence to their treatment and related barriers, with special focus on pharmacist's role. Most psychiatric patients reported suboptimal control of their symptoms. Nonadherence is one reason, with

barriers identified. Positive religious and cultural perspectives are associated with better adherence, and most patients do not refer to pharmacists for medication information.

## Introduction

The rate of psychological disorders continues to grow globally, affecting millions of people worldwide. To have a deeper insight into the proportions of specific psychological conditions, it has been reported that 264 million people suffer from depression, 45 million from bipolar disorder and 20 million from schizophrenia (1),(2). In Jordan, the number of patients diagnosed with psychological disorders has not been published, however, it was documented in a World Health Organization (WHO) report that there are 64 mental health outpatient facilities in Jordan, which provide services to an estimated 305 users per 100,000 population, with the most commonly assigned diagnosis at both outpatient facilities and mental hospitals being schizophrenia (3). According to the WHO, Jordan has been identified as a country in need of intense support for strengthening the mental health system (4). As is the case all around the world, in Jordan, females suffer from psychological conditions more than males (5),(6).

With the growing burden of psychiatric disorders worldwide, creating a partnership relationship between patients and their healthcare professionals is vital for proper management (7, 8). This can be done by taking into consideration patients' preferences, needs and values (7, 8). Hence, assessing patient's beliefs and how it affects the management of their condition would be useful (9).

Over the past years, the pharmacists' role has developed to include numerous patient-oriented clinical services (10). Being at the front line, pharmacists have a unique position due to their direct contact with patients (11). Hence, pharmacists can successfully identify patients in need of help, including psychologically ill patients hesitant to visit their specialist to get help (12-14).

In addition to their accessibility, the important role of the pharmacists in the psychological healthcare sector was found to be acknowledged by both healthcare professionals and patients around the world (15). Pharmacists were found to enjoy a high level of patient trust in Arab countries as well, including Jordan (13), assisting in opportunistic screening for depression and anxiety (12).

Adherence to treatment is important for psychologically ill patients considering the young age of the population, the high alert medications used in their management (16), the side effects of treatment and withdrawal symptoms due to misuse. Identifying barriers and relationship of patient beliefs and values, and proper adherence can help in optimizing the management of a culturally and religiously oriented group of patients (17, 18).

Previous studies reported a positive effect of religious beliefs of Muslims on coping with mental disorders and other distressing conditions (19-22). However, the impact of religious beliefs on the perception of psychiatric illnesses and adherence to medications by the Muslim population has not been assessed as yet.

Culturally, perceived public mental illness stigma and self-stigma, causes a delay in active help-seeking behavior (23). However, the size of this stigma among patients who do seek help in the relatively "closed" rural cultures and its effect on adherence has not been evaluated.

In addition, several studies on patients with psychiatric disorders have revealed overall high rates of perceived benefits of psychotherapeutic interventions, including a study in Amman, the capital of Jordan, which involved a sample of 100 patients who received psychosocial expert interventions (23). No previous study, however, has evaluated the awareness and preference of psychotherapy among patients with psychiatric disorders in rural areas.

Although primary healthcare teams exist in rural areas to provide services to chronically ill patients, including those diagnosed with psychiatric disorders, barriers exist (15, 24). No previous study has looked into the perspectives of patients with psychological illnesses living in rural areas in Jordan when it comes to the management and awareness of their condition, barriers to adherence, and the role of the pharmacist.

This brings us to the aim of this study, which is to investigate perspectives of patients diagnosed with psychiatric disorders, living in rural areas in Jerash, Jordan, regarding their awareness about their psychiatric conditions and their treatment, adherence to their treatment, and related barriers, with special focus on the pharmacist's role.

## Methods

### Study Setting

The study objectives were addressed via a descriptive cross-sectional face-to-face survey, conducted in Jarash, Jordan, from August to November 2019. Jerash is located in Northern Jordan, and although it has a population of about 50,745, it is surrounded by a large number of remote and rural areas that lack specialized hospitals, making Jarash Hospital (located in the city of Jarash Governorate) the center of care and medication provision for many patients.

Data were collected from patients diagnosed with psychological conditions visiting the out-patient psychiatric clinic at Jerash Hospital, following the specialists' informed consent. Ethics approval was obtained from the Faculty of Pharmacy, Applied Science Private University. Participation in the study did not pose any risk to patients and was voluntary. Patients who accepted to participate in the study and met all of the inclusion criteria were informed about the nature of the study and were asked to provide a written consent before participation. The inclusion criteria were patients above 18 years of age, diagnosed by a specialist with a psychiatric disorder, and is currently taking a medication for a psychiatric disorder with no change in treatment and/or dose for the past one month. Exclusion criteria included the presence of a cognitive problem or a sensory impairment which could prevent communication with the patient, those who rely on their parents/caregivers to visit the psychiatric clinic in order to obtain their medication/s (hence physically were not present), and patients not able to write and/or read Arabic.

### Study tool

The study tool (the survey) was developed following an extensive review of the literature. The survey contained close and open-ended questions. The questionnaire was administered in Arabic since Arabic is the official language of patients in Jordan. Several sources were used to generate a pool of questions considered to be relevant to the study objectives. The questions were tabled and reviewed by the research team in order to combine concepts and to remove duplicates if any.

To ensure face validity, the first draft of the questionnaire was evaluated by independent academics who have previous experience in pharmacy practice and education. The items in the questionnaire that were not clear or difficult to comprehend were removed. Feedback and comments provided were considered by the research team and then incorporated where appropriate. Finally, the research team revised the items as necessary to make them concise and to be completed within 10-15 minutes by the researcher during patient's interview. The questionnaire was then piloted by a group of volunteer patients (n=5) to test the clarity of questions over a 2 weeks period. Refinements and comments were incorporated into the final version of the survey.

The survey incorporated Likert scale questions and consisted of three parts. The *first part* was designed to collect data on patients' demographic characteristics including age, gender, weight, exercising, caffeine intake and insurance coverage. The *second part* was designed to assess patients' awareness of the management of their condition, adherence, barriers to adherence, faith level and its impact on their adherence. The *third part* was designed to evaluate patients' perspective of the role of healthcare professionals, with a focus on the pharmacist role.

### Survey implementation

Following recruitment, patients were asked by practiced researchers (n=2) to answer the survey items found in the survey as the items were read out by the researchers. A female pharmacist approached female patients, and a male pharmacist approached male patients. Both researchers practiced together well to unify the way they approached and interviewed the patients. Patients were given the time needed to complete the survey

(10 to 15 minutes). Patients who completed the survey observed the researcher as she/he inserted it in a sealed envelope. Every envelope was given a number for participant privacy.

Data were coded and all completed surveys were kept in a locked cabinet that was only accessed by the researcher. Following data entry, data were kept in a computer with a password protection known only by the researcher.

Following survey completion, data verification was done by the researcher including age, medical condition/s, date of treatment commencement, name of medication/s, dosage, therapeutic regimen and reason of use from the computerized hospital data.

## Data analysis

Data were analyzed using the Statistical Package for the Social Science (SPSS) version 22 (SPSS Inc., Chicago, IL, USA). The quantitative variables were described using mean and standard deviation (SD), and the qualitative variables were described using frequency and percentages. Pearson's  $\chi^2$  test was used to determine the relationship between adherence level to treatment and selected variables. Correlation testing exploring associations between the different variables was identified using Pearson's correlation and Pearson's  $\chi^2$  test for significance. A probability value of  $< 0.05$  was considered to be statistically significant for all analysis tests.

## Results

Demographics, diagnosis, and treatment :

A convenience sample of 150 patients attending the outpatient psychiatric clinic located in Jerash Hospital was approached. Eligible patients ( $n= 120$ , response rate of 80%) who accepted to complete the survey and gave consent were recruited into the study. The mean age of patients was  $39.4 \pm 9.5$  and the mean weight was  $78.7 \pm 18.2$ . More than half of the patients were males (66.7%), most of them (68.3%) reported not to perform any exercise, and 75% of the patients had health insurance (Table 1). Only 32.6% of the patients were employed before their diagnosis, and more than half of these patients (56.5%) reported loss of their job due to their psychological illness.

With regard to the type of diagnosed psychological illness, more than half of the patients (53.3%) reported being diagnosed with depression, followed by schizophrenia (30%), obsessive compulsive disorder (9.2%) and Bipolar (7.5%). No family history of a psychological illness was reported by 70.8% of the patients.

Most of the participants (87.5%) agreed that they have a psychological illness, 2.5% were not sure, and 10.0% were not convinced. They reported that their first psychological symptom started at a much earlier age ( $27.2 \pm 1.2$ ) when compared to their current mean age ( $39.4 \pm 9.5$ ).

Almost all of the patients (98.4%) reported that they started taking a medication to treat their psychiatric disorder. It was the specialist who advised the patients to start taking their medication in most cases (97.5%). The medications used by the patients included antidepressants and antipsychotics (Table 2), comprising mostly Citapram® (citalopram, 21%), Kemadrin® (procyclidine hydrochloride, 14%), and Haldol® (haloperidol Injection, 13.5 %).

Patient perspectives about their psychiatric disorders and their medications :

Following medication use, less than half of the patients (47.5%) reported complete control over their illness. Others reported partial control (43.3%), while few reported poor control (9.2%).

A deeper insight into patient's perspectives of the causes that led to their physiological illnesses (Figure 1) included family problems (41.0%), death of a beloved person (20%), work problems (15%) and financial problems (10%). Patients reported that they visited the specialist merely due to the advice of a family member (74.2%), others followed the general practitioner's advice (10.8%), and 8.3% visited the specialist based on their own decision.

Around half of the patients (51.7%) believed that their medications lead to addiction, yet they reported that this did not prevent them from taking it. Some patients (46.7%) believed that their medications do not cause addiction. Two patients said that they do not take their medication because they believed it might cause addiction.

The sources of information about psychiatric illnesses are important for psychiatric patients and are reported in Figure 2. It was the specialist who gave the patients such information in most cases (92.5%), followed by the use of the internet (3.3%), or via a pharmacist consultation (1.7%). When patients were specifically asked about the source of information regarding their medications (Figure 2), the majority reported that it was the specialist (78.3%), followed by the pharmacist (14.2%) then the internet (5.8%).

When asked if they had questions about their psychiatric illnesses which were not answered, most patients responded that this never (46.7%) or only slightly (19.2%) happened. When asked if they had questions about their psychiatric medications that were not answered, most patients responded that this never (58.3%) or only slightly (15.0%) happened. Reasons for not getting answers about medications included neither visiting nor calling the specialist in the first place (29.2% of all patients), the specialist did not give enough time (6.7%) and neither visiting nor calling the pharmacist (5.8%).

Patient awareness and preference of psychotherapy :

Most of the patients (89.2%) did not hear about psychotherapy before, and all of them were never exposed to it prior to study entry. After psychotherapy was explained to the patients, the majority (65.9%) of them strongly agreed/agreed that they would have chosen psychotherapy prior to starting treatment if they had known about it before (9.2% were neutral and 25% strongly disagreed/disagreed).

Adherence to treatment and barriers :

Most of the patients (71.0%) responded that they always/usually adhere to their medications. The most frequent barrier to adherence reported by the patients was suffering from adverse effects (31.9%). Others reported different barriers, such as being unconvinced that they needed a medication (23.3%), believing that their illness symptoms would get resolved without the use of a medication (11.2%), and not being able to afford their medication when it was not provided by the hospital (11.2%).

A high proportion of patients (59.2%) reported that they regard their psychological illness in terms of religious faith as counting for their benefit in the Hereafter and these patients reported a significant better adherence to treatment (Pearson correlation,  $p=0.046$ ).; others (10%) believed their illness is a sort of divine punishment, while the rest thought it was neither due to the pre-mentioned reasons (30.8%).

In response to questions related to perceived public psychiatric disorder stigma and self-stigma, 52.5% of patients always/usually looked at themselves positively and unaffected by the existence of their psychiatric problem; which correlated significantly ( $r=0.394$ ,  $p<0.001$ ) with better treatment adherence. On the other hand, 41.7% said that they felt embarrassed that their family, friends, or people in their surrounding know that they are taking a medication for a psychological problem.

As for adherence to the advice provided by the specialist, the majority (89.2%) reported that they would not stop taking their medication on their own even if their symptoms faded away. Others (10.8%) reported that they would stop taking their medication gradually once their symptoms disappeared.

## Discussion

This study is the first to evaluate psychiatric patients living in rural areas in Jordan with regards to their perspectives of their illness, adherence to treatment, barriers to adherence, and the role of the pharmacist. Results revealed that less than half of the patients reported complete control of their symptoms with treatment, and most of them always/usually adhered to their treatment.

Religious and cultural perspectives were unveiled; as the majority of patients (72.5%) believed that the psychiatric disorders are never/slightly caused by a weakness of faith. Also, 69.2% of them dealt positively

with their illness as being counted for their favor in the Hereafter; this positive outlook about their illness correlated significantly with better adherence to drug therapy ( $p < 0.046$ ).

Barriers to adherence included mainly suffering from medication adverse effects. Only 14% of patients reported that they refer to the pharmacist to get information about their medications.

The study unveiled high rates of perceived public psychiatric disorder stigma and self-stigma in patients who do seek medical help. This is just one part of the more general picture since mental health stigma and low mental health literacy were previously found to be the most powerful barriers to seeking help (25). In this current study, anecdotal comments provided by patients and their families present at the study clinic indicate that many mental health patients in the rural areas in Jordan do not come to the hospital to pick up their medications. Such behavior cancels out any chance of being counseled and educated by the pharmacist or even other healthcare professionals and delivery of evidence-based therapy. This highlights the importance of socially destigmatizing these disorders in rural areas, in which local pharmacists can play a crucial role. Mental health education programs have been shown to positively impact mental health literacy and stigmatizing attitudes and may be an effective tool to use in rural areas (26).

In this study, most of the patients relied on the specialist to get information regarding their mental illnesses and treatment. Similarly, a previous study in Northern Jordan reported the same finding, as the majority (68%) of patients referred to their specialists for information about their treatment (27). Although pharmacists are the experts in medication use; lack of mental health counselling skills might be the cause behind this hindered role (28). To be able to provide professional care to those patients, pharmacists should improve their skills and reflect on their attitude and belief when assisting patients in need (29, 30).

Unlike pharmacists at community pharmacies, who are highly accessible, pharmacists in public hospitals of rural areas like Jerash have weaker chances for counseling the patient, since medications get dispensed through a window to patients or the patients' relatives who would usually be standing in line before receiving their medication, presenting physical and time barrier prohibiting optimal pharmacist care.

It has been acknowledged previously that the majority of Muslims depend on their religious beliefs when it comes to coping with their mental distresses (19-22). This fact was consolidated through a study conducted in Jordan previously, which involved patients with mental disorders who reported that religion is an important factor affecting their treatment (31). In this study, 69% of the patients associated their mental illness with their faith, considering it a source of good deeds.

In a previous study on psychiatric illnesses, the leading factors for medication nonadherence were: "not willing to use medication", "not accepting the disease", and "being disturbed by side effects" in the bipolar disorder group, "not accepting the disease" in the schizophrenia/schizoaffective disorder group, and "feeling well" in the depression group (32). In our study, the main reason for reported nonadherence was suffering from adverse effects, which signifies the early involvement of the pharmacist in the management plan to recognize and resolve these adverse effects in collaboration with the psychiatrist.

Psychotherapy based interventions for mentally ill patients have been shown to be effective for this group of patients (33-36). Most of the patients in this study did not know about psychotherapy and reported that they would have chosen it before medications if they had known about it in the first place. Including psychotherapy in the management of these patients, as an adjunct therapy with the pharmacological treatment used, is important and can improve patient's adherence to treatment (34). It could be associated with less stigma barrier and increase the patient courage to seek help.

One recommendation from our research is for the academic institutes in Jordan to introduce the subspecialty of "psychiatric pharmacy", in which the pharmacist is provided with specialized knowledge, skills, and training for working with patients with psychiatric or neurologic disorders (37).

Limitations of the study include the fact that it was conducted in one public hospital, which may not be representative of the situation in other hospitals and psychiatric clinics in Jordan. This can limit the generalizability of the study. Another barrier was shown through the anecdotal comments provided by many

people present in the clinic at the time of the study, indicating that a large number of patients do not come to the clinic themselves to pick up their medications. Hence, the present sample of patients does not cover those who do not attend the clinic themselves to pick their medications and/or see the specialist.

## Conclusion

This study provides insight into the perspectives of psychiatric patients in rural areas with regards to their illnesses and their medications, adherence, barriers to adherence, and the role of the pharmacist. Less than half of the patients reported complete control over their illness and most of them reported adherence to treatment. Positive religious and cultural viewpoints correlated with better adherence, while the main barriers decreasing adherence included suffering from medication adverse effects and being unconvinced of the need for medication. Most patients did not know about psychotherapy and most of them declared that they would have chosen it before medication. Choosing the pharmacist as a source of medication information was minimal. Relevant strategies should be developed to improve pharmacist participation in identifying patients in need for help and in dealing with barriers to evidence-based therapy.

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**Table 1.** Patients' demographic characteristics (n=120).

Gender	n (%) 80 (66.7) 40 (33.3)		
Male			
Female			
<b>Age group</b>			
21-30	26 (21.7)		
31-40	38 (31.7)		
41-50	41 (34.2)		
51-60 61-70	14 (11.7)	1 (0.8)	
<b>Exercise</b> None Moderate Regularly	82 (68.3)	16 (13.3)	22 (18.3)
<b>Caffeine intake</b>			
None Mild Moderate Sever	7 (5.8)	52 (43.3)	17 (14.2) 44 (36.7)
<b>Insurance</b>			
Yes No	90 (75.0)	30 (25.0)	

**Table 2.** Medications used by the study participants (n= 120).

Percent %	Frequency	Drug name
21	33	Citapram (citalopram)
14	22	Kemadrin (procyclidine hydrochloride)
13.5	21	Haldol (haloperidol) Injection
10.3	16	Prexal (olanzapine)
5.1	8	Camcolots (lithium)
4.5	7	Depakin (sodium valproate)
4.5	7	Lexopan (bromazepam)
3.87	6	Rispal (rispridone)
3.22	5	Tegretol (carbamazepine)
2.5	4	Esperal (quetiapine)
2.5	4	Prozac (fluoxetine)
2.5	4	Saroten (amitriptyline)
1.9	3	Eciphram (escitalopram)
1.9	3	Deanxit (flupenthixol)
1.9	3	Gabatrex (gabapentin)
1.9	3	Rivoram (clonazepam)
1.6	2	Lamictal (lamotrigane)
.6	1	Stilnox (zolpedim)

Percent %	Frequency	Drug name
.6	1	Olexa (olanzapine)
.6	1	Cilanem (imipenem)
.6	1	Paroxetine (paroxat)

## Figure legends

**Figure 1.** Patients' perspectives (n= 120) on the cause that led to their psychological illness.

**Figure 2.** Source of information about the psychological illnesses and treatments reported by the patients (n=120).

