

What are the Characteristics of Outpatients of Schizophrenia with Good Insight and Medication Adherence?

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Abstract

Schizophrenia is a chronic mental disorder which associated with lack of insight, poor quality of life and increased early mortality. This study aims at identifying characteristics of outpatient with schizophrenia with good insight and medication adherence. A total of 96 outpatients with schizophrenia were administered the Insight and Treatment Attitudes Questionnaire (ITAQ). The result indicated that, men, married, and employed outpatients with schizophrenia found to have good insight and medication adherence in compare to women, unmarried and unemployed one. In addition, outpatient with schizophrenia with university education and high level of income perception found to have good insight and medication adherence. Recommendations to improve patient insight and medication adherence were suggested.

Keywords: Schizophrenia • Insight • Medication attitude • Patient characteristics

Introduction

Schizophrenia is a chronic mental disorder which associated with lack of insight, poor quality of life and increased early mortality [1]. It is estimated that there are 25 million schizophrenia patients worldwide [2]. Schizophrenia is characterized by a combination of positive symptoms (reality assessment impairment, disorganized thoughts and hallucinations) and negative symptoms (speech impairment, social withdrawal and introversion) [3]. One important feature of schizophrenia is lack of insight which is largely leads to poor treatment adherence, poor disease prognosis and impaired functioning [4]. Schizophrenia treatment aims to relieve symptoms of the disease and actively involve the patient in the community [5]. Effective patient response to treatment depends on insight [2].

Several studies have examined insight in patients with psychiatric disorders. One of the most recent meta-analyses has claimed that poor insight is common in schizophrenic disorders [6]. Lack of insight in schizophrenia is associated with impairments in neurocognition and social cognition [7,8]. Impaired insight is present in all stages of schizophrenia and is associated with decreased psychosocial functioning [6,9]. Poor insight is associated with high risk of relapse [10] and hospital admission [11]. In addition, insight impairment has been linked to poor occupational function [12], lack of social relationships [13], self-care and independent life deficits [14], and low quality of life [4,15,16].

Insight has always been the focus during the treatment of schizophrenia. Medication adherence found to be moderate among psychiatric patients [17], and schizophrenic patients [18]. Non-adherence to medication among psychiatric patients has been widely associated with lack of insight [19-21]. Insight impairment in patients with schizophrenia leads to a lack of awareness of the need for treatment [19,22]. Impaired insight found to predicts medication nonadherence and therapeutic alliance [23]. Therefore, severity of symptom, stigma, and impaired community function among patients with schizophrenia has been associated with poor insight and non-compliance with medication [4,18,23,24].

Patient acceptance of their illness and medication adherence is of the priority importance to themselves and their families. Psychiatric nurses

have a powerful role in exploring insight in patients with schizophrenia, and improving adherence to medication [2]. There is a need to understand poor insight and its associated factors in the treatment and prognosis of schizophrenia [6]. Evidence proposes that insight is closely related to social and cultural contexts [25]. Hence, insight into schizophrenia must be inspected separately in countries with diverse sociocultural characteristics.

Aim

This study aims at identifying characteristics of schizophrenia outpatients with good insight and medication adherence.

Methodology

Design

This study used a descriptive cross-sectional design.

Study sample

The participants of this study were recruited using convenient sampling technique. Study's participants were outpatient with schizophrenia. There were enrolled through psychiatric nurses and psychiatrist based on the following inclusion criteria: between 16 to 65 years of age, at least 2 years of confirm diagnosis of schizophrenia and who received regular outpatient care. Patients who agreed to participate in the study were arranged to meet to fill in the study questionnaires by the researcher during their outpatient visit. The interview took an average of 10 minutes. The sample size was calculated based on Raosoft at error of 5% and confidence of 95% [26]. The total of potential participants who met study criteria were 120. Therefore, 96 participants were considering appropriate for the sample size based on formula. The response rate was 80%.

Permission to conduct this study was obtained from the Institutional Review Board. The purpose and method of the study, voluntary participation, protection of confidentiality and privacy, and publication of results were explained to potential participants. Consent forms were secured before data collection.

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Study instruments

Insight and Treatment Attitudes Questionnaire (ITAQ): It was used to evaluate insight and medication attitude among outpatient with schizophrenia. The ITAQ is a widely used and well known semi-structured interview aimed at examining a patient's awareness regarding the disease and their awareness medication need [27]. It consists of three parts; the first five items examine awareness of mental illness, and the remaining six items assess the medication's attitude. Each items expressed as questions to elicit responses on a 3 point likert-scale ranging from 0 to 2, where "0" indicates no insight, "1" indicates partial insight and "2" indicates good insight. The minimum score is 0 refers to poor insight/medication attitude while the maximum score is 22 refers to good /medication attitude. ITAQ was translated into Arabic through back translation by an expert. The validity of content has been properly checked by a jury of experts. Permission is secured from the ITAQ authors for use in the current study.

Socio-demographic survey: was prepared by the study researcher and includes questions related to age, gender, and marital status, education level, working status, income level perception and family history of mental illness.

Data analysis

Data was entered and analysed by the Statistical Package for Social Sciences (SPSS Inc, Chicago, Ill) [28]. The research data were summarized using descriptive statistics which are percentage, mean, and Standard Deviation (SD). The independent sample t-test was used to find the relationship between overall insight score and medication attitude with gender, working status, marital status, and history of mental illness. One-way ANOVA analysis was used in order to test the relationship between the overall score of insight and medication attitude with age groups, education level, and income level perception. The research data was considered significant at $p < 0.05$.

Results

The total number of study participants was 96 outpatients with schizophrenia. The majority were men (57.3%), married (57.3%) and unemployed (51%). The mean age was 33.3 years old. The majority of outpatients got primary education (44.8%) and perceives their level of income as moderate (53.1%). About two third of the participants reported to have no family history of mental illness (Table 1).

Table 1. Characteristics of the study participant (No =96).

Characteristics	No.	%
Gender	50	50
• Men	55	57.3
• Women	41	42.7
Age	Mean age: 33.3	
• 18-29	23	24
• 30-39	34	35.4
• 40-65	39	40.6
Working status		
• No	49	51
• Yes	47	49
Level of education		
• Primary	43	44.8
• Secondary	41	42.7
• University	12	12.5
Marital status		
• Married	55	57.3
• Unmarried	41	42.7
Family history of mental illness		
• Yes	29	30.2
• No	67	69.8

Perception of income		
• Low	24	25
• Moderate	51	53.1
• High	21	21.9

Regarding the descriptive statistics of ITAQ, insight items, the highest mean (1.33 ± 0.610) was score for 'Do you now have mental ("nerve, worry") problem?' and the lowest mean (0.88 ± 0.785) was scored for 'Have you at any time had mental ("nerve, worry) problems that were different from most other people's?' and "Have you at any time needed treatment (hospitalization or outpatient car) for mental ("nerve, worry") problems?". In addition the mean for total insight level was (1.14 ± 0.749) (Table 2).

Table 2. Descriptive statistics of ITAQ insight items.

ITAQ insight items	Minimum	Maximum	Mean/Std
Have your at any time had mental ("nerve, worry) problems that were different from most other people's?	0	2	0.88 ± 0.785
Have you at any time needed treatment (hospitalization or outpatient car) for mental ("nerve, worry") problems?	0	2	0.88 ± 0.785
Do you now have mental ("nerve, worry") problem?	0	2	1.33 ± 0.610
Do you now need treatment for mental problems?	0	2	1.22 ± 0.743
Is it possible that in the future you may have mental problems?	0	2	1.10 ± 0.732
Will you in the future need continued treatment for mental problems?	0	2	1.11 ± 0.724
Insight Total Level	0	2	1.14 ± 0.749

Regarding the descriptive statistics of ITAQ, medication attitude items, the highest mean (1.29 ± 0.648) was score for "Will you in the future need to take medications for mental problems?" and the lowest mean (1.27 ± 0.624) was scored for "Have you at any time needed to take medication for mental problems?" and "Do you need to take medication for mental problems?". In addition the mean for total medication attitude level was (1.15 ± 0.740) (Table 3).

Table 3. Descriptive statistics of ITAQ medication attitude items.

ITAQ medication attitude items	Minimum	Maximum	Std. Deviation
Have you at any time needed to take medication for mental problems?	0	2	1.27 ± 0.624
Do you need to take medication for mental problems?	0	2	1.27 ± 0.624
Will you in the future need to take medications for mental problems?	0	2	1.29 ± 0.648
Will you take the medications?	0	2	1.10 ± 0.774
Do the medications do you any good?	0	2	1.10 ± 0.774
Medication attitude total level	0	2	1.15 ± 0.740

The result of comparing the mean of total score of insight and medication attitude with sociodemographic characteristics of outpatients with schizophrenia showed a significant result in regard to gender, marital status and working status (Table 4). There was a significant difference in mean between men and women in regards to insight score ($t=10.470$, $p=0.005$) and in regard to total score of medication attitude ($t=10.353$, $p=0.011$). There was a significant difference in mean between employed and unemployed in regards to insight score ($t=-6.423$, $p=0.012$) and in regard to total score of medication attitude ($t=-6.304$, $p=0.026$). There was a

significant difference in mean between married and unmarried in regards to insight score ($t=-3.243$, $p=0.014$) and in regard to total score of medication attitude ($t=-3.142$, $p=0.007$). However, there was no significant relationship between the total score of insight ($t=0.315$, $p=0.808$) or medication attitude ($t=0.228$, $p=0.723$) and family history of mental illness.

Table 4. In depend sample test of relationship between patient characteristics, insight and medication attitude.

Characteristics	ITAQ Insight total score	ITAQ Medication attitude total score
Gender		
• Men	0.67 ± 0.579	0.69 ± 0.573
• Women	1.76 ± 0.435	1.76 ± 0.435
t-test value	t=10.470	t=10.353
Significance	p=0.005	p=0.011
Working Status		
• Yes	1.55 ± 0.503	1.55 ± 0.503
• No	0.73 ± 0.730	0.76 ± 0.723
t-test value	t=-6.423	t=-6.304
Significance	p=0.012	p=0.026
Marital status		
• Married	0.93 ± 0.66	0.95 ± .65
• Unmarried	1.41 ± 0.77	1.41 ± .77
t-test value	t=3.243	t=3.142
Significant	P=0.014	P=0.007
Family history of mental illness		
• Yes	1.17 ± 0.759	1.17 ± 0.759
• No	1.12 ± 0.749	1.13 ± 0.736
Test value	t=0.315	t=0.228
Significance	P=0.808	P=0.723

Note: Significance at $p<0.05$.

Therefore, men, married, and employed outpatient with schizophrenia found to have better insight and medication attitude in compare to women, unmarried and unemployed one. However, no difference was found in regard to patients with family history of mental illness. The result of one-way ANOVA of total score of insight and medication attitude with sociodemographic characteristics of outpatient with schizophrenia showed a significant result in regard to level of education and perception of income (Table 5). There was a statistically significant difference between level of education with total score of insight ($F(2,93)=9.102$, $p=0.000$). A Tukey post hoc test revealed that total score of insight was statistically significant with participants with university education (1.83 ± 0.389 , $p=0.000$). There was a statistically significant difference between level of education with total score of medication attitude ($F(2,93)=9.545$, $p=0.000$). A Tukey post hoc test revealed that total score of insight was statistically significant with participants with university education (1.83 ± 0.389 , $p=0.000$).

Table 5. One-way ANOVA of relationship between patient characteristics, insight and medication attitude.

Characteristics	ITAQ Insight total score	ITAQ Medication attitude total score
Age groups		
• 18-29	1.17 ± 0.887	1.17 ± 0.887c
• 30-39	1.15 ± 0.702	1.15 ± 0.702
• 40-65	1.10 ± 0.718c	1.13 ± 0.695
Test value	F=0.071	F=0.027
Significance	p=0.932	p=0.973
Level of education		
• Primary	0.88 ± 0.793	0.88 ± 0.793

• Secondary	1.20 ± 0.641	1.22 ± 0.613
• University	1.83 ± 0.389	P=0.723
Test value	F=9.102	F=9.545
Significance	p=0.000	p=0.000
Perception of income level		
• Low	0.54 ± 0.779	0.54 ± 0.779
• Moderate	1.18 ± 0.623	1.20 ± 0.601
• High	1.71 ± 0.463	1.71 ± 0.463
Test value	F=19.244	F=20.089
Significance	p=0.000	p=0.000

Note: Significance at $p<0.05$.

In regard to perception of income level and total score of insight, there was a statistically significant difference ($F(2,93)=19.244$, $p=0.000$). A Tukey post hoc test revealed that total score of insight was statistically significant with participants with high income (1.71 ± 0.463 , $p=0.000$). There was a statistically significant difference between perception of income level with total score of medication attitude ($F(2,93)=20.089$, $p=0.000$). A Tukey post hoc test revealed that total score of medication attitude was statistically significant with participants with high income perception (1.71 ± 0.463 , $p=0.000$). There was no significant found between age groups and insight total score or medication attitude total score (Table 3).

Post hoc-Tukey analysis

Therefore, outpatient with schizophrenia with university education and high level of income perception found to have better insight and medication attitude in compare primary or secondary education, and low or moderate income perception ones. However, no difference was found in regard to patients with age group.

Discussion

The main aim of the study was to at identify characterises of outpatients with good insight and medication adherence. The mean for total insight level was (1.14 ± 0.749) and the mean for total medication attitude level was (1.15 ± 0.740). In the current study, good level of insight was found to be parallel with good medication adherence when compared with patient characteristics. The similar finding was found in prior studies [29-31]. According to Pijnenborg, et al. insight affects medication adherence positively [30]. In addition, Dikeç and Kutlu found that the most important factor influencing adherence to medication is insight [31]. Kao, et al. reported that patient with schizophrenia had lack of medication adherence and this could be increased by improving insight [32]. Psychiatric nurses can improve patient's insight by improving their awareness of disease and this can lead to better recovery through adherence to medication.

In regard to the relationship between sociodemographic characteristics and insight level and medication attitude, no relationship was found with age groups. This result is supported by Cavelti and Ampalam [19,33]. However, this result was contradicted by Kalkan and Kavak who reported that patient over 51 years of age reported to have better insight [2]. Kalkan and Kavak rationalized their result because low number of patient over 50 years in their study [2]. In regard to the gender, current study found that men reported better insight and medication adherence than women. This study supported by Lysaker, et al. who reported low insight level among female patients with schizophrenia, and Demirkol, et al. who claimed that female found to had medication nonadherence in compare to men [4,34]. However, Kalkan and Kavak reported no difference between men and women in regard to insight level [2]. The result of the current study can be explained by the fact that the mental illness of women was hidden by their families and did not want their daughters to be hospitalized to save their marriage [4]. In addition, this result can be explained by that as men with schizophrenia found to have better insight, therefore will accepted their illness and maintain medication adherence.

Regarding to marital status, married outpatients with schizophrenia found to have good insight and mediation adherence. This result comes in parallel with previous studies [2,18].This result can be justified by the

fact that patients with schizophrenia living with their families have improved adherence to medication. It can be believed that members of the family increased awareness of the patient of social support. Therefore, they were committed to treatment through focusing in achieving their responsibilities. Outpatients with schizophrenia who were employed with high level of income perception found to have good insight and medication. This result is consistent with earlier studies that confirm the positive outcome of work performance in the ability of an individual self-reflection [35,36]. Kavak and Yilmaz identified in their study that jobless and low income rate were the causes for nonadherence to medication [37]. Altun, et al. claimed that medication nonadherence is high among unemployed patients with low socioeconomic rank [17].

No difference was found in regard to patients with family history of mental illness in regard to level of insight and medication adherence. However, According to Cavelti, et al. the levels of insight in patients with schizophrenia with a family history were lower compared to the levels of insight in patients without a family history [19]. In addition, Gültekin, et al. reported that medication adherence of patient with schizophrenia with family history of mental illness was low [38]. In the current study, the disagreement with the previous studies can be rationalized by the absence of a history of mental illness in the families of most patients participating in the study. Therefore, more focus in this regard should be given in future research.

Outpatients with schizophrenia with university education found to have better insight and medication adherence in compare to patients with low level of education. This result is supported by Cavelti, et al. and Kalkan and Kavak and Demirkol, et al. [2,19,34]. Based on the results of the study, it was believed that individuals with a higher level of education have a greater chance of conducting research on the disease and eliminating its ambiguity. Furthermore, highly educated patients are prepared for the potential side effects of treatment and took precautions. In addition, they recognized the importance of scientific treatment and avoided religious beliefs and therefore, they get past the stage of denial faster. Hence, it is recommended to implement psychotherapy interventions to improve patient's insight [24].

Conclusion

This study aims at identifying characteristics of outpatients with schizophrenia with good insight and medication attitude. The result reported that outpatient with schizophrenia with high level of education, men, and married, employed, with high level of income perception found to have good insight and medication attitude. Based to these result, there is a big role for psychiatric nurses in terms of paying attention that social support is necessary for patients with schizophrenia. This is done by educating patients and their caregivers, besides providing patient care to increase their insight and adherence to medication.

Limitations

The main limitation of this study was that data were collected from only one outpatient department. Therefore, the study result cannot be generalized. Therefore, future studies are recommended to collect data from multiple outpatient departments or clinics.

Conflict of Interest

There are no conflicts of interest regarding this manuscript.

Ethical Standards

The ethical approval was obtained by Institutional Board Review at the Imam Abdulrahman Bin University, Dammam, Saudi Arabia (IRB # irb-2018-04-121).

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