

Insight in Schizophrenia and its Relationship to Positive and Negative Symptoms and Medication Adherence

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Abstract

Schizophrenia is a severe mental illness which characterizes by impaired insight. Previous studies showed that a lack of insight in people with schizophrenia is negatively affected their medication compliance, symptoms reduction, and well-being in general. This study aims at assessing the insight of people with schizophrenia and to identify its relationship with positive and negative symptoms and treatment attitudes in Saudi Arabia. A purposive sample of outpatients with schizophrenia was selected. The participants were administered the Positive and Negative Syndrome Scale (PANSS), and the Insight and Treatment Attitudes Questionnaire (ITAQ), for data collection. Data were analyzed by SPSS software. The study disclosed that most of the patients were found to have fair to good insight and moderate medication adherence. The result indicated that patients with schizophrenia with negative symptoms have poor insight and medication compliance. Several suggestions were recommended to enhance the level of insight and medication adherence among outpatients with schizophrenia.

Key words: Schizophrenia • Insight • Symptoms • Medication Adherence

Introduction

Schizophrenia is a severe mental illness which characterizes by a lack of insight (patient's awareness of his or her illness). Basically, insight has been defined according to David based on three criteria which include [1],

- The ability of the patients to relate the disease symptoms namely hallucination and delusion as pathological,
- The patient's acknowledgment that he or she has a mental illness and,
- Seeking and following the treatment plan. Factors related to insight in form of psychological and neurophysiology have been widely tested over the past 30 years [2].

Treatment of schizophrenia is intended to relieve the disease's symptoms and engage the patient effectively in the community [3,4]. A patient's effective response to treatment depends on having insight [5].

Previous studies showed that a lack of insight in people with schizophrenia is negatively affected their medication compliance, symptoms reduction, and quality of life in general [6-9]. In addition, Mohamed, et al. [10] revealed high-level ratings of insight were considerably related to lower levels of positive and negative symptoms. Schennach, et al. [11] stated that about 70% of patients with schizophrenia suffer from a lack of insight at hospital admission and it's improved by treatment. In addition, Baier, et al. [12] stated that about 30% to 50% of outpatients with schizophrenia experience insight impairment. Medication nonadherence among patients with psychiatric diseases was widely linked to a lack of insight [13]. Lack of insight in patients with schizophrenia causes to the failure to recognize the need for treatment [14].

Non-adherence to medication can be in form of not using the prescribed medication or irregular use of medication and not showing up for appointments [3]. Medication adherence was found moderate among patients with psychic illnesses [15], and patient with schizophrenia [16]. According to Lysaker, et al. [17], poor insight predicts poor adherence to medication and therapeutic alliance. In addition, increased symptom

severity, stigmatization and community function impairment among patient with schizophrenia were linked to poor insight and medications non-compliance [16,18].

Patient acceptance of schizophrenia and adherence to medication are of vital importance to patients, families, and psychiatric and mental health nurses. Investigating insight in patients with schizophrenia and adherence to medication and improving awareness of the positive impact of insight are one of important roles of psychiatric and mental health nurses [5]. Therefore, the result of this study hoped to contribute to the high quality of psychiatric and mental health nursing care.

Aims

This study aims at assessing the insight of people with schizophrenia and to identify its relationship with positive and negative symptoms and medication adherence.

Materials and Methods

Design

The design of the study is descriptive. It employs a cross-sectional and correlational scheme.

Participants

The study's participants were conscripted through the use of a convenient sampling procedure. The study participants were outpatients with schizophrenia. The researchers coordinate with the psychiatrists and registered nurses to aid in classifying patients who are appropriate for this study. The participants' inclusion criteria were,

- Age range between 16 and 65 years.
- Matches the diagnostic criteria for schizophrenia based on the ICD-10 definition.
- Minimum of 2 years duration of illness.

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The potential participants were approached by the registered nurses and provided with the research information. For the patients who approved to be engaged in the study, a meeting was arranged to fill in the questionnaires by the study researcher during their next appointment to the outpatient clinic. An average of 15 minutes each interview lasted.

Based on the calculation of sample size for the study at 5% error and 95% confidence [19] and the total number of patients who met study criteria were 120, therefore, the sample size determined to be 96 participants. Therefore, between June and February one hundred twenty outpatients were recruited for the study out of them 4 refused to participate and 10 didn't reply.

Data collection tools

In order to measure the level of insight and its relationship with positive and negative symptom and sociodemographic variables the following tools were used:

ITAQ: insight was evaluated by the Insight and Treatment Attitudes Questionnaire (ITAQ) [20]. The ITAQ is a well known widely used semi structured interview that intended to examine patient illness awareness and their insight in regard to the illness and their awareness about need for treatment. It consisted from three main parts the first five items measure the patient's awareness of mental disorders, the next six items evaluate the patient's attitude toward medication. It is composed of 11 items that are expressed as questions to provoke responses on a likert-scale ranging from 0 to 2, where "0" refers to no insight, "1" refers to partial insight, and "2" refers to good insight. The minimum and maximum possible score range from 0 to 22. The ITAQ has been translated into the Arabic language by back translation by an expert. Content validity was checked by a jury of five experts.

PANSS: schizophrenia symptoms were evaluated by the Positive and Negative Syndrome Scale (PANSS) [21]. It consisted of three subscales that focus on positive, negative, and general psychiatric symptoms. It has 30 Likert scale items that range from 1-7 where 1 reflecting the absence of symptoms and 7 reflecting having severe symptoms based on last week's self-assessment. The PANSS is a widely used survey that showed a high level of reliability and validity [21]. The Arabic translation of the PANSS has been previously validated by the back translation method. The Arabic version of PANSS revealed good interrater reliability (0.92) and test-retest reliability (0.75) [22].

Sociodemographic data were collected through a questionnaire which was prepared by the study researcher which includes for instance; age, gender, marital status and education level.

Permission was secured from ITAQ and PANSS authors to be used in the current study. The administration of the PANSS and the ITAQ was done by the researcher who has experience in psychiatric and mental health clinical teaching for more than 10 years.

Data analysis

The Statistical Package for Social Sciences (SPSS) version 22 for Windows was used for data entry and analysis. Research data was summarized through the use of basic descriptive statistics for instance mean and Standard Deviation (SD) [23]. PANSS analysis was done through the use of the PANSS manual in order to identify patients' positive, negative, and psychopathy levels. The level of insight was calculated through the use of the ITAQ manual. ANOVA analysis was used in order to test the relationship between the level of insight, symptomatology, and medication used. Research data with a significant bivariate association of $p < 0.05$ were deliberated as significant.

Ethical considerations

The permission to undertake this study was guaranteed by the Institutional Review Board. Study participants were informed about the study's nature, voluntary participation, and the right to withdraw. Consent forms were secured.

Results

This study included an assessment of 96 individuals who were diagnosed with schizophrenia and received follow-ups at outpatient clinics. The response rate was 80%. There were 55 males (57.3%) and 41 females (42.7). The mean age of the study participants was 33.3 years old. Most of them were unemployed (51%) and completed primary education (44.8%) and married (57.3%) as presented in Table 1.

Table 1. Socio-demographic characteristics of outpatients with schizophrenia.

Characteristics	No.	%
Gender		
Male	55	57.3
Female	41	42.7
Age	Mean age: 33.3	
18-29	23	24
30-39	34	35.4
40-65	39	40.6
Employment		
Unemployed	49	51
Employed	47	49
Education		
Primary	43	44.8
Secondary	41	42.7
University	12	12.5
Marital status		
Married	55	57.3
Single	32	33.3
Divorced/Widowed	9	9.4

The study revealed that the majority of patients were found to have fair insight (43.8%), followed by good insight (35.4%), then poor insight (20.8%) (Table 2).

Table 2. Level of insight of outpatient with schizophrenia.

Insight	Frequency	Percent
0-7 Poor	20	20.8
8-14 Fair	42	43.8
15-22 Good	34	35.4

Regarding the level of medication adherence (Table 3), half of the outpatients with schizophrenia were found to have fair medication adherence, followed by good (39.6%), and finally poor medication adherence (10.4%).

Table 3. Level of medication adherence among outpatients with schizophrenia.

Medication Adherence	Frequency	Percent
Poor	10	10.4
Fair	48	50
Good	38	39.6

An analysis of variance ANOVA showed that there is a significant relationship between insight and PANSS negative $F(2, 93) = 14.93, p = .000$ and PANSS general psychopathy $F(2, 93) = 19.98, p = .000$. In the other hand, there was no significant relation between insight and PANSS positive. This result indicated that patient with schizophrenia who is complaining of negative symptoms and general psychopathy has poor insight (Table 4).

Table 4. ANOVA Analysis of Insight Correlation with PANSS Negative Symptoms, PANSS Positive and General Psychopathy.

	Sum of Squares	df	Mean Square	F	Sig.
PANSS Negative	36.684	2	18.342	14.934	0
PANSS Positive	0.224	2	0.112	0.331	0.719
PANSS General	18.496	2	9.248	19.982	0

Attitude toward medication correlation with insight, PANSS positive, and PANSS negative

An analysis of variance ANOVA showed that there is a significant relationship between medication adherence and insight, $F(2, 93)=138.37, p=0.000$. In addition, PANSS negative symptoms, $F(2, 93)=4.29, p=0.16$. However, there were no significant relation between medication adherence and PANSS positive symptoms. This result indicated that patient with schizophrenia with negative symptoms have poor insight and medication compliance (Table 5).

Table 5. ANOVA Analysis of Medication Adherence Correlation with insight, PANSS positive, and PANSS negative.

Variables	Sum of Squares	df	Mean Square	F	Sig.
Insight	38.889	2	19.445	138.371	0
PANSS positive	1.415	2	0.708	2.17	0.12
PANSS negative	12.764	2	6.382	4.297	0.016

Discussion

The main aim of the study was to identify the level of insight of outpatients with schizophrenia and to examine its relationship with positive and negative symptoms and treatment attitudes in Saudi Arabia. The study revealed that the majority of patients found to have fair to good insight (79.2%) and only 20.8% reported poor insight. This result is consistent with a study which was done in Croatia at 2016 and found that the vast majority (88.6%) of patients with schizophrenia found that they have high or moderate level of insight [24]. In addition, Kalkan and Kavak [5] reported that about 69% of patient with schizophrenia have moderate insight. However this study was contrary to studies which was done by Ampalam, et al. [4], Cavelti, et al. [13] and Dewedar, et al. [14], Hassan, et al. [25], Choudhury, et al. [26], Lehrer and Lorenz [27], Bitter, et al. [28] and Korkmaz, et al. [29]. In addition, Kamal, et al. reported that in acute case of schizophrenia, the majority of the patients were identified to have poor insight (96%), followed by fair insight (4%), none of them were found to have good insight [30]. The possible explanation for that the patient reported fair to moderate level of insight in this study, is due to family support in the Arab culture by which they accompanied the patients to their appointment in the clinic. Furthermore, the data collection from the patient was done during aftercare sessions where better insight is expected. In addition, according to Gerretsen, et al. stated that insight improved during middle age and this may have an impact in the insight' level as the majority of the study participants were aged more than 40 years [31].

Patient's adherence to medication was moderate. This result is consistent with a study done by Kalkan and Kavak [5] among 300 Turkish patients with schizophrenia and 69% reported moderate level of medication adherence. However, this study is inconsistent with some study were patients reported low level of medication adherence [32,33]. The possible explanation that the patient had moderate level of medication adherence is that the patient has moderate level of insight. Therefore, the patients were aware of the importance of medication in improving their symptoms. It has been confirm that medication adherence can be improved by increasing

patient insight in their illness [5].

Study found that the outpatient with schizophrenia who was complaining of negative symptoms and general psychopathy reported poor insight. This study is supported by a number of studies that found poor insight is correlated with overall symptom severity [6,34-36], and negative symptoms [35,37-39]. According to Pignon, et al. negative symptoms play a role as a clinical mediator of the association between deprivation of needs and poor insight [40]. However, this study contradicted other studies that found association between poor insight and positive symptoms [41-43]. The relation between poor insight and negative symptoms can be rationalized by that effect of internalized stigma, perception of illness, attitude of disease recovery, and meditative style [44]. According to Lysaker, et al. patient who reported fair level of insight and moderate depression found to have high level of intrinsic stigma in compare to patients with poor insight and low level of depression [17]. According to Belvederi-Murri and Amore [45], stigmatization of both individual and cultural of mental illness can lead insight to traumatic event and increase the occurrence of depression. Therefore, healthcare providers need to accurately assess, evaluate and enhance insight by using a personalized style in order to help patient for optimum personal growth. Furthermore, evidence that symptoms was affected by insight the finding that better insight is a predictive of reduced relapse risk [46] besides to the positive effect in improving both positive and negative symptoms [47] and excitement [48].

The study indicated that patient with schizophrenia with negative symptoms have poor insight and medication compliance. This result is in agreement with previous studies done by Na, et al. [49], Perkins, et al. [50], Liu-Seifert, et al. [51]. However, the studies that have incongruity with this result were done in patient who is on first episode of schizophrenia [52] or acute schizophrenia [53,54]. Our study supports the assertion that the management of depressive symptoms is significant in schizophrenia. In addition, this study is supported by previous study which reported good medication adherence was found among patient with fewer depressive symptoms [49].

Additionally, this study found that insight influences adherence to medication among patient with schizophrenia. This findings is support by other studies [5,25,28,55-57]. Parallel to our results was Tessier, et al. [58] who stated that greater adherence was associated with higher insight, and a model was proposed by which adherence to medication was straight predicted by insight and therapeutic alliance. Therefore, adherence to medication can be enhanced by increasing insight. Furthermore, Novick, et al. reported strong relationship between insight, therapeutic alliance with the health care providers and adherence to medication in dealing with patient with schizophrenia [59]. Therefore, it is likely that insight facilitates good adherence to medication in chronic schizophrenia. Programs aimed at increasing insight may also be useful in keeping patients with chronic schizophrenia in a steady condition [49]. Psychiatric nurses can gain insight by raising awareness in patients and this can increase patient recovery by increase adherence to medication.

Recommendations for practice

It was reported the level of patient insight can be improved through psychiatric nursing interventions [5]. This can be in the form of providing health education about illness processes, symptoms, and management. In addition, nurses can educate the patient about performing certain non-pharmacological practices, for instance; relaxation exercises and reality-based practices. In addition, yoga was found to be effective in improving medication adherence and insight of individuals with schizophrenia [60]. It is highly encouraged to incorporate yoga into the rehabilitation program of people with schizophrenia. Furthermore, training in mindfulness-based psychosocial skills found to reduce the negative symptoms and improve the level of insight of patients with schizophrenia [61,62]. Therefore, it is recommended to be included in the rehabilitation program in order to improve the level of insight and therefore maintain medication adherence and avoid relapse.

Conclusion

The study's aim was to identify the level of insight and its relationship with positive and negative symptoms and medication adherence. The result found that patients report a fair to good level of insight. In addition, it revealed that patients with schizophrenia with negative symptoms have poor insight and medication compliance. Based on these results, it can be recommended to improve patient insight through psychiatric nursing interventions and tailoring the rehabilitation program according to patients' needs.

Limitations

The present study has some limitation. Firstly, the study was undertaken at a single outpatient clinic therefore, will affect the generalizability of the findings. Secondly, the study is cross-sectional, so there were no longitudinal observations of the level of patient's insight over time. Thirdly, the side effects of antipsychotic medicine were not an exclusion criterion. Lastly, the long acting use of antipsychotic drug was not link to the level of medication adherence and insight.

Conflict of Interest

There is no conflict of interest to be declared.

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