

The Relation between Psychotic Patients' Strength of Religious Faith and Adherence to Medication

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Abstract

Medication non-adherence is often a predominant a complicated multifactorial issue among patients with psychotic disorders. Religion often affects positively or adversely on individuals' psychological well-being. Religious factors can play a significant influence in determining engagement and adherence to treatment recommendations. **Aim:** The current study wished-for exploring the relation between psychotic patients' strength of religious faith and adherence to medication. **Subjects and Method:** A descriptive correlational design was used, which was conducted in outpatient's clinic at Port Said Psychiatric Health and Addiction Treatment Hospital, Egypt. The studied subjects compromised a sample of 159 patients diagnosed with psychotic disorders. **Tools:** 1) Morisky Medication Adherence Scale, 2) Santa Clara Strength of Religious Faith Questionnaire. In addition to Personal and Clinical Data Questionnaire were used. **Results:** The studied patients' strength of religious faith mean score was 30.91 ± 5.98 . More than two thirds of them displayed a low adherence level to their prescribed medication. **Conclusion:** It was verified that, no statistically significant correlation was established between religious faith and medication adherence among the studied psychotic patients, by means of the strength of religious faith was not among aspects that influences the psychotic patients' adherence to medication. **Recommendations:** Planning and implementing psycho-therapeutic interventions for psychotic patients to increase the levels of adherence to their treatment regimen utilizing motivational interviewing, and cognitive behavioral approaches. Besides, further studies must be carried out to disclose the factors that contribute to non-adherence to treatment regimen among psychotic patients.

Keywords: Psychotic patients, Religious faith, Medication adherence.

Introduction

Psychotic disorders are chronic and commonly disabling mental health disorders, with no significant differences in prevalence among countries or nations (*Vos et al., 2015*). Psychotic disorders are accompanied with significant deleterious effects for the individuals and their families comprising a worsening of clinical symptoms, impaired functionality, and a reduced quality of life (*Awad & Voruganti, 2008; Ahmad et al., 2017*). Due to their high prevalence, early onset, and persistence, psychotic disorders contribute noticeably to the burden of illness. Medication adherence is a major health behavior noted to improve the quality of life of psychotic patients (*Demoz et al., 2014*).

In spite of non-adherence is a communal problem among various medical disciplines, the nature of psychiatric illness makes it special. Numerous reasons for non-adherence came into view including co-morbidity, nature of illness, cost of treatment, and side effects of medication being given. Alongside with these reasons, countless social and cultural myths and beliefs regarding

psychiatric medication, usage of alternative medicine, and clinician-patient therapeutic alliance or relationship are similarly significant issues contributing to non-adherence (*Taj et al., 2018*).

Psychotic disorders are commonly treated with antipsychotic drugs, and their efficiency is recognized. Nevertheless, many individuals remain to exhibit the adverse bio-psychosocial consequences of their disorder owing to non-adherence to suggested medication regimen (*Eticha et al., 2015*). Although deficiency of medication adherence may be perceived in basically wholly chronic disorders, it is chiefly inspiring in mental illnesses (*Zago'zd'zon & Wrotkowska, 2017*). Non-adherence to prescribed antipsychotic medication can precipitate dire consequences, compromises the efficiency of accessible treatments, worsen psychiatric symptoms and social functioning, accompanying with increased personal distress, an increased risk of relapse, greater danger of recurrence, and lower recovery rates, so upsetting the quality of life of patients and families. Furthermore,

there can be an intense influence on the budget of care, along with noteworthy impairments to the patient's coping, including social, occupational, and educational functioning (*Cutler et al., 2018*).

Religious faith reveals the functions of psychological needs. Religion is an imperative contributing factor of popular way of life, perceptions, approaches, and behaviors. Consequently, it influences the actions that safeguard and advance mental health (*Tedruss et al., 2015*). Religion exerts a major role in the lives of many individuals, including those managing psychotic disorders. Peak studies have found a positive association between religion and patients' health. Religion often influences, positively or negatively on an individuals' psychological wellbeing. For individuals managing psychotic disorders, there're many connections between mental illness and religiosity comprising symptom severity, symptom presentations, coping strategies, and adherence to medication regimen (*Gearing et al., 2011; Koenig, 2012*).

Providentially, a lot of patients frequently notify that religiosity is a strong basis of soul, wellbeing, and optimism. This is chiefly significant for patients complaining from illnesses that are pronounced chronic, extensively disabling, or with poor prognosis. Besides, Religion can disturb medical decision-making, bring spiritual conflicts that generate stress and damage health consequences, and hinder disease discovery and treatment adherence (*El-Masry et al., 2018*).

Religious beliefs and spiritual factors may possibly affecting medication adherence among patients with mental disorders to a huge degree. When a mental disorder is resulting from or be accompanying with spiritual difficulties, pharmacotherapy perhaps be insufficient. Many psychotic patients believe that medical instruction seeking or medication taking indicates the deficiency of faith in God's capability to heal the malady minus a therapeutic interference. Some patients perhaps think through treatment adherence as a rebellion to religious principles. These beliefs may be discussed by patients, and their family members, affecting their outlooks to prescribed medication (*Zago 'zd'zon & Wrotkowska, 2017*).

Psychiatric nurses take an imperative role in using a bio-psychosocial model of holistic care, that involves consumer education and encourages self-management and religious support for patient with psychotic disorders; in which the importance of the patient's perspective in treatment choices is stressed, discussing and confirming client preferences, and encouraging patient's desired levels of independence and selecting applicable medication, reviewing options for daily or monthly reminders to take medication or come back for follow-up injections, and by discussing the negative effects of treatment non-adherence (*Kirk et al., 2017*).

Patients demand comprehensive care including spiritual or religious factors as a way to expand the coping with their disease. Thus, it is important to improve health professionals' knowledge about the religious beliefs of the patients, they serve aiming to provide holistic care, considering that in the specific case of adherence to treatment (*Romero et al., 2018*).

Significance of the study:

Patients suffering from psychotic disorders display a larger grade of non-adherence to treatment. Non-adherence for individuals with a mental condition is connected to raise individual suffering, deterioration, and re-hospitalization, and reduced excellence of life. Also, it is related to increasing rates of mortality and morbidity (*Girma et al., 2017*).

Psychotic patients don't adhere to medication for many factors. Religiosity brought into being to be a primary source among individuals dealing with chronic psychotic disorders, nevertheless, studies relating this definitely to medication adherence have been limited. Yet, addressing religious and spiritual needs of psychotic patients could enhance their medication adherence behavior and hence, their health outcome. In conclusion, no accessible Egyptian researches spoken about the influence of religiosity on adherence to medication among psychotic patients. So, this study was conducted to shed light on this issue, and to plug the gap of knowledge in this area.

Aim of the study:

This study concerned with exploring the relation between psychotic patients' strength of religious faith and medication adherence.

Subjects and Method***Specific objectives:***

1. Evaluate psychotic patients' strength of religious faith.
2. Measure psychotic patients' levels of medication adherence.
3. Find out the relation between the religious faith's strength and medication adherence among psychotic patients.

Research Questions:

The research questions for which the researchers wanted to find out the answers were:

1. What is the degree of strength of religious faith among psychotic patients?
2. What are the levels of medication adherence among psychotic patients?
3. Is there a correlation between strength of religious faith and medication adherence among psychotic patients?

Study design: a descriptive correlational design was applied for the contemporary study.

Setting: The present work was implemented at outpatients' clinic in Port Said Psychiatric Health Hospital, Egypt. It is allied to General Secretariat of Mental Health and Addiction Treatment (GSMHAT), Ministry of Health. The hospital capacity is 140 beds; provides care to psychiatric patients and substance abusers. It serves all the catchment areas in Port Said and two surrounding governorates (El-Ismailia, Sina, and El Suez). The hospital composes five inpatient psychiatric departments, one men's department for addiction treatment, and one outpatient clinic for children. Finally, a psychiatric outpatient clinic which is accessible all days of the week from 10 a.m. to 2 p.m. It consists of three rooms specialized for treatment and follow-up of patients with mental illness.

Sample: The study subjects comprised a purposive sample of 159 patients with psychotic disorders presented at the outpatient clinic of the beforehand declared setting between the period from January 2020 to April 2020.

Criteria of the subjects' recruitment:

- 1) Being diagnosed with schizophrenia, bipolar disorder, or major depressive disorders.
- 2) Aged 18 years or more.
- 3) Receiving antipsychotic drugs in the meantime of at least the last one year.
- 4) Able to communicate verbally to be able to fill all the study instruments.

Sample Size:

It was estimated by means of the consequent equation (*Dawson & Trapp, 2004*).

$$n = \left[\frac{Z_{\alpha/2}}{E} \right]^2 * P(1 - P)$$

Where

- n= sample size
- $Z_{\alpha/2} = 1.96$ (The critical value that divides the central 95% of the Z distribution from the 5% in the tail)
- $E = .05$
- $P = 0.12$ (*Fleck et al., 2005*)
- **Sample size (n) = 159** psychotic patients.

Tools for data collection:

The Morisky Medication Adherence Scale and the Santa Clara Strength of Religious Faith Questionnaire, along with a personal and clinical data questionnaire were used to collect data for this study.

1) The Morisky Medication Adherence Scale (MMAS-8):-

This scale was developed by *Morisky et al. (2008)*, in an English language and translated to an Arabic language by *Athalaika et al. (2016)*. It is a simple self-report scale that was utilized to measure medication adherence across miscellaneous patient populations. It assessed influences as patient obliviousness to take medications, problems related to recalling taking

medicines, and discontinuing medication when feeling improved or worse. The Arabic version of MMAS-8 showed validity and worthy internal consistency, using Cronbach's alpha $\alpha = 0.79$. Validity was done by an expert panel who decided that the scale was valid (*Alhalaiqa et al., 2016*).

For scoring system, The MMAS-8 consisted of 8 questions. Each one should be answered by selecting one of the two alternatives, "Yes"= 0, "No"= 1 for questions 1 to 7. The scoring was reversed in the question 5. Regarding question 8, it had a five-point Likert response scale (0 - 4), the score had to be standardized by dividing the response by 4, when calculating a summated score. The total score of MMAS-8 ranged from 0-8, with scores of 8 denoting high adherence, from 6 to less than 8 denoting medium adherence, while less than 6 indicating low level.

2) The Santa Clara Strength of Religious Faith Questionnaire (SCSORF):-

The SCSORF was developed by *Plante & Boccacini (1997)*, in an English language; it is a brief self-report measure comprising 10 items that were designed to measure strength of religious faith regardless of religious denomination or affiliation. The scale focused on internal rather than external religious perspectives. Moreover, it intended to provide researchers with a quick and easy administer measure of religiosity.

Intended for scoring system, the scale used a 4-point Likert response format, ranging from (1) "Strongly disagree" (2) "disagree," (3) "agree," and (4) "Strongly agree." The scores ranged between 10 and 40, with higher cumulative scores reflecting stronger religious faith.

Additionally, **Personal and Clinical Data Questionnaire was utilized**, this structured interview questionnaire established by the researchers in an Arabic linguistic. It contained personal features as age, sex, marital status, level of education, employment status, residence, and monthly income. It also comprised questions that covering data related to clinical characteristics such as diagnosis, duration of

disease, numbers of previous psychiatric hospitalization, and discharge status. Data related to follow up at outpatient clinic were included as well, it encompassed questions to assess adherence to clinic follow up appointment, causes that inhibit the patients from maintaining their follow-up appointment, and types of barriers with getting drugs.

Tool validity and reliability:

For the current study, the SCSORF questionnaire (**Tool 2**) was transformed into Arabic language. The two chief phases of translation comprising forward and backward were done. Two bilingual specialists did the forward translation, and then the Arabic version of the SCSORF was then translated back into an English language by two other linguistic experts who were uninformed of the original version. Then, the researchers revised these translations and compared them with the original version to assure the accuracy of translation and eliminate any dissimilarity.

As well, a final Arabic version was confirmed by a panel of experts who decided that the translated tool was valid. A panel encompassed one professor and two assistant professors from Psychiatric Nursing and Mental Health department, one professor and one assistant professor from Medical Surgical Nursing department, and two assistant professors from Nursing Administration department, Faculty of Nursing, Port Said University. They were demanded to convey their views concerning construction, lucidity, significance, and inclusiveness of the transformed tool. Grounded on their appraisal, the required modifications were done accordingly. The stage of evidencing validity of the translated tool continued for two months.

Reliability of an Arabic version of the SCSORF questionnaire was proven by Cronbach's alpha coefficient. An Arabic version was proved to be reliable as Cronbach's alpha was satisfactory as $\alpha = 0.83$. The period of ascertaining reliability persisted for one week.

Pilot study: Beforehand incoming the actual study, a pilot study was implemented on 10% of the studied patients (15 patients) suffered from psychotic disorders. It was done in order to establish the significance, lucidity, practicability, and feasibility of the utilized study tools, and to assess the time necessary to fill in the used tools. Founded on the detections of the pilot study, no adjustments were done. The study tools were guileless and vibrant. The patients who embraced the pilot study not included in the chief study sample to reassure the constancy of the results. This phase was conducted at the time from the first to the mid of December 2019.

Field work: Primarily, the researchers attended the above mentioned setting director's office to introduce self, and explain the purpose of the study; then, the director referred the researchers to the responsible nurse. Afterward, the definite days that the psychotic patients presented in Port Said Psychiatric Health Hospital for follow up at psychiatric outpatient clinics were obtained to determine days of data collection. The data were collected over 2 days (Saturday and Sunday) per week. The collection of data covered a period of four months from January 2020 to April 2020.

The data collection procedure was conducted by means of face to face interview method that was done on an individual basis and this was done on a secretive area in the outpatient clinic to ensure discretion and secrecy of the collected data. A fluctuating number from 4 to 5 of psychotic patients were interviewed daily from 10 a.m. to 1.00 p.m.

The tools were accomplished from every patient in one session lasted from 30 to 45 for chi-square when more than 20% of the cells have expected count less than 5.

The Arabic version of SCSORF Questionnaire's internal consistency was assessed by measurement of Cronbach's alpha coefficient. Besides, Pearson coefficient to correlate between two normally distributed quantitative variables was utilized. Regression analysis was applied to detect the most independent factor affecting medication adherence. A statistical significance of the obtained results was judged at the 5% level.

minutes depending on their responses. After completion, the researchers ensured that all statements included in the study tools were completed. Then, the studied patients were acknowledged for the time and exertion they generously offered.

Ethical considerations: Prior to the origination of this study, an ethical approval was attained from the Scientific Research Ethics Committee of the Faculty of Nursing; Port Said University. An informed consent was acquired from the studied psychotic patients after complete description of the objectives of the study. Every patient had an equal chance to be involved in the study through randomization. Confidentiality of the collected data and anonymity were strictly maintained through a code number attached to each studied patient tools. Voluntary participation of the studied patients was confirmed as they were well-informed that they had the choice to withdraw from study at any stage whenever they wanted. Lastly, the process of data collection was not disturbing the harmony of the work of the above-mentioned setting.

Statistical analysis: Data were fed to the computer and analyzed via IBM SPSS software package version 20.0. (*Armonk, NY: IBM Corp*). Quantitative variables were presented using descriptive statistics including range (minimum and maximum), means, and standard deviations; Qualitative data were described through frequencies and percentages. Qualitative categorical variables were compared utilizing Chi-square test. Continuous data were normally distributed, plus Fisher's Exact or Monte Carlo correction

Results:

Table 1, reveals the studied psychotic patients' personal and clinical characteristics, the study group comprised 159 patients, slightly more than half of them were males and aged between 30 to less than 50 years which constituted 53.5 % and 52.2% respectively. In relation to religion, four fifths (80.5%) were Muslims. Looking at their working status, slightly more than half, (55.3%) of the studied patients were not

working. Regarding to living status, 81.8% were living with family members.

The table additionally illustrates that, 54.1% and 54.7% of the studied patients had bipolar disorder and didn't have pervious psychiatric hospitalization respectively. Referring to discharge status, slightly two fifths (40.3%) of the studied patients discharged from the hospital for the reason of improvement.

Table 2, displays the utilization of the psychiatric outpatient clinic by the studied patients. Results reveals that, 42.8% of the studied subjects didn't maintain clinic follow-up appointment regularly, and nearly one third of them (32.4%) reported that the cause of irregular visit was due to useless of medication, while only 8.8% stated that they felt better. Concerning barriers with getting drugs among the studied patients, almost two thirds of the studied patients (67.3 %) didn't experience any barriers. Slightly more than two fifths of the patients (42.3%) who experiencing barriers had a complaint of limited types of drugs available in the outpatient clinic.

Figure 1, the findings indicate that, more than two thirds (70.4%) of the studied psychotic patients displayed a low adherence level to their medical regimen, 25.2% were

Table 6, submits the correlation between psychotic patients' strength of religious faith mean scores and medication adherence. It was verified that, no a statistically significant correlation was originated as ($r= 0.082$) at $p > 0.05$.

Table 7, reveals multiple linear regression model for factors affecting medication

moderately adherent, whereas only 4.4% displayed high adherence.

Table 3, elicits that the psychotic patients' strength of religious faith mean score was 30.91 ± 5.98 . This indicated that the studied patients had robust religious faith.

Table 4, puzzles out the relation between levels of medication adherence and personal characteristics among the studied psychotic patients. The study results reveal that, there was a statistically significant relation between medication adherence's levels and personal features of the studied patients concerning age, sex, and educational level wherever $p \leq 0.05$.

Table 5, represents that, 100.0 % of the studied patients who displayed high adherence level had bipolar disorders. It was established that, patients who had previous psychiatric hospitalization constituted 71.4 % of the patients who displayed high adherence to medication as compared to 46.4 % of patients who had a low level.

The table also considers that, there were statistically significant relations between medication adherence's levels and clinical characteristics of the studied patients comprising diagnosis, and duration of illness at $p \leq 0.05$.

adherence among the studied psychotic patients, as remarked, the strong factor affecting medication adherence among psychotic patients was diagnosis as $p < 0.001$ followed by duration of illness, age, level of education, and sex whereby ($p= 0.003, 0.006, 0.002, \text{ and } 0.018$) respectively.

Table (1): Frequency& percentage distribution of the studied patients according to their personal and clinical characteristics (n=159)

Personal and Clinical Characteristics	Studied Patients	
	No.	%
Sex		
Male	85	53.5
Female	74	46.5
Age (years)		
< 30	52	32.7
30 – <50	83	52.2
50 and more	24	15.1
Range	20-65	
Religion		
Muslim	128	80.5
Christian	31	19.5
Level of Education		
Not read and write	34	21.4
Primary	65	40.9
Secondary	39	24.5
University	21	13.2
Marital Status		
Single	81	50.9
Married	50	31.4
Divorced	21	13.2
Widow	7	4.4
Working Status		
Working	54	34.0
Not working	88	55.3
Retried	15	9.4
Student	2	1.3
Monthly Income		
Enough	86	54.1
Not enough	73	45.9
Residence		
Rural	50	31.4
Urban	109	68.6
Living Status		
With family members	130	81.8
Alone	29	18.2
Diagnosis		
Schizophrenia	73	45.9
Bipolar disorder	86	54.1
Duration of Illness (years)		
<5	64	40.3
5 –10	54	34.0
>10	41	25.8
Pervious Psychiatric Hospitalization		
Yes	72	45.3
No	87	54.7
Last Hospitalization Since (years) n = 72		
< 1	13	18.1
1 and more	59	81.9
Discharge Status (n = 72)		
Improved	29	40.3
Family demand	22	30.6
Patient demand	20	27.8
Escape	1	1.3

Table (2): Frequency & percentage distribution of the studied patients according to the utilization of the psychiatric outpatient clinic (n = 159)

The utilization of the psychiatric outpatient clinic	Studied Patients	
	No.	%
Maintain Clinic Follow-up Appointment Regularly		
Yes	91	57.2
No	68	42.8
Reasons of Irregularity (n = 68)		
Busy	8	11.8
Unenthusiastic	14	20.6
Felt better	6	8.8
Useless of medication	22	32.4
Someone gets the medication	9	13.2
Go to private clinic	9	13.2
Having Barriers with Getting Drugs		
Yes	52	32.7
No	107	67.3
Barriers Are (n = 52)		
long distance and difficult transportation	18	34.6
Limited types of drugs available in the outpatient clinic	22	42.3
Long waiting	12	23.1

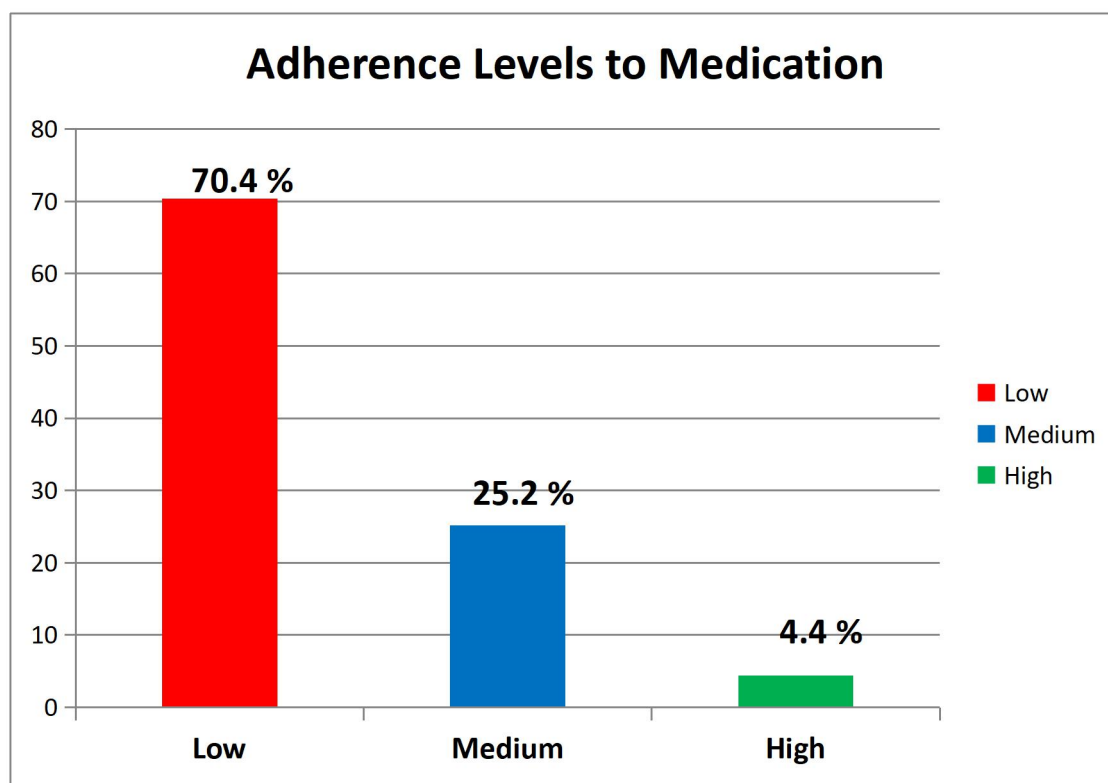
**Figure (1): Percentage distribution of the studied patients according to levels of adherence to medication**

Table (3): Mean score of the strength of religious faith among the studied patients (n = 159)

Item	Total Score	
	Min. – Max.	Mean ± SD.
	Strength of Religious Faith	18.0 – 40.0

Table (4): Relation between levels of medication adherence and personal characteristics among the studied patients (n = 159)

Personal Characteristics	Medication Adherence Levels						χ^2	p
	Low (n = 112)		Medium (n = 40)		High (n = 7)			
	No.	%	No.	%	No.	%		
Sex								
Male	64	57.1	21	52.5	0	0.0	8.944*	MC p= 0.011*
Female	48	42.9	19	47.5	7	100.0		
Age (years)								
<30	45	40.2	7	17.5	0	0.0	12.673*	MC p= 0.009*
30 – <50	51	45.5	25	62.5	7	100.0		
≥ 50	16	14.3	8	20.0	0	0.0		
Religion								
Muslim	89	79.5	32	80.0	7	100.0	1.779	0.411
Christian	23	20.5	8	20.0	0	0.0		
Level of Education								
Not read and write	26	23.2	8	20.0	0	0.0	21.769*	MC p= 0.001*
Primary	47	42.0	17	42.5	1	14.3		
Secondary	31	27.7	8	20.0	0	0.0		
University	8	7.1	7	17.5	6	85.7		
Marital Status								
Single	59	52.7	19	47.5	3	42.9	9.505	MC p= 0.100
Married	37	33.0	11	27.5	2	28.6		
Divorced	12	10.7	9	22.5	0	0.0		
Widow	4	3.6	1	2.5	2	28.6		
Working Status								
Working	38	33.9	15	37.5	1	14.3	3.973	MC p= 0.683
Not working	63	56.3	20	50.0	5	71.4		
Retried	9	8.0	5	12.5	1	14.3		
Student	2	1.8	0	0.0	0	0.0		
Monthly Income								
Enough	64	57.1	20	50.0	2	28.6	2.460	FE p= 0.299
Not enough	48	42.9	20	50.0	5	71.4		
Residence								
Rural	38	33.9	9	22.5	3	42.9	2.345	FE p= 0.320
Urban	74	66.1	31	77.5	4	57.1		
Living Status								
With a family member	93	83.0	32	80.0	5	71.4	0.706	0.702
Alone	19	17.0	8	20.0	2	28.6		

 χ^2 : Chi square test

MC: Monte Carlo

FE: Fisher Exact

*: Statistically significant at $p \leq 0.05$: Insignificant at $P > 0.05$.

Table (5): Relation between medication adherence levels and clinical characteristics among the studied patients (n = 159)

Clinical Characteristics	Medication Adherence Levels						χ^2	p
	Low (n = 112)		Medium (n = 40)		High (n = 7)			
	No.	%	No.	%	No.	%		
Diagnosis								
Schizophrenia	61	54.5	12	30.0	0	0.0	13.574*	MC p= <0.001*
Bipolar disorder	51	45.5	28	70.0	7	100.0		
Duration of Illness (years)								
<5	47	42.0	15	37.5	2	28.6	19.047*	MC p= <0.001*
5 –10	35	31.3	15	37.5	4	57.1		
>10	30	26.8	10	25.0	1	14.3		
Pervious Psychiatric Hospitalization								
Yes	52	46.4	15	37.5	5	71.4	2.871	FE p= 0.229
No	60	53.6	25	62.5	2	28.6		
Last Hospitalization Since (years) n = 72	(n = 52)		(n = 15)		(n = 5)			
< 1	10	19.2	2	13.3	1	20.0	0.443	FE p= 0.881
1 and more	42	80.8	13	86.7	4	80.0		
Discharge Status (n = 72)	(n = 52)		(n = 15)		(n = 5)			
Improved	20	38.5	7	46.7	2	40.0	5.278	MC p= 0.597
Family demand	17	32.7	5	33.3	0	0.0		
Patient demand	14	26.9	3	20.0	3	60.0		
Escape	1	1.9	0	0.0	0	0.0		

χ^2 : Chi square test MC: Monte Carlo

*: Statistically significant at p ≤ 0.05

FE: Fisher Exact

: Insignificant at P > 0.05

Table (6): Correlation between total scores of religious faith and medication adherence among the studied patients (n = 159)

Total Scores of	Strength of Religious Faith	
	r	p
Medication adherence	0.082	0.307

r: Pearson coefficient

Table (7): Multiple linear regression analysis of factors affecting medication adherence among the studied patients

Independent Factors	B (95%CI) Coefficient	SE	Beta	t	P	95% CI	
						LL	UL
Sex	8.833	3.703	0.159	2.385*	0.018*	1.516	16.149
Age	9.111	3.249	0.220	2.804*	0.006*	2.692	15.530
Level of education	6.165	1.997	0.211	3.087*	0.002*	2.219	10.110
Diagnosis	13.680	3.822	0.246	3.580*	<0.001**	6.130	21.229
Duration of illness	8.087	2.716	0.234	2.977*	0.003*	2.721	13.453
R²=0.330, F=15.063*, p <0.001*							

F, p: F and p values for the mode

B: Unstandardized Coefficients

UL: Upper Limit

LL: Lower limit

*: Statistically significant at $p \leq 0.05$

**: Statistically significant at $p \leq 0.001$

R²: Coefficient of determination

Beta: Standardized Coefficients

SE: Estimates standard error

t: t-test of significance

CI: Confidence interval

Discussion

Non-adherence is a noteworthy challenge in whole patients with psychiatric disorders. Adherence levels are usually lesser among patients with long-lasting psychotic disorders. This inclines to deteriorate the prognosis of the disorder, and causing lasting treatment. Countless factors as religious beliefs influence individuals' psychological well-being and adherence to medication; it can have equally a protective plus risk increasing influence.

The significance of considering religiosity is crucial in understanding the individuals' needs and struggles. So, religion as well as spirituality must be taken into contemplation in the treatment of psychotic disorders. Thereupon, the present study was implemented to explore the relation between psychotic patients' strength of religious faith and adherence to medication.

This current study results disclosed that, more than two thirds of the studied psychotic patients displayed a low adherence level to their medical regimen. The cause for this may possibly be due to the fact that almost whole the studied sample in this study were

psychotics and had diminished insight which might induce greater level of non-adherence, a deficient insight is recognized to be linked with impaired cognitive competency, as they stopped taking medication for the reason that they did not believe they were ill.

This also may be interconnected to several reasons as deficient knowledge of a disorder, medication efficacy, and adverse effects, and an absence of patients' mindful of the inevitability to take drugs to shrink the influence of a disorder on their different aspects of life. Furthermore, less affordability, forgetfulness, and worse therapeutic relationship and distrust in the psychiatrists. This point outs an urgent necessity to detect approaches that would help to enhance medication adherence among psychotic patients.

On the same line, *Okasha et al. (2020)*, investigated psycho-demographic and clinical forecasters of medication adherence among patients had bipolar disorders in Egypt, and found that the preponderance of patients displayed a low adherence level to their medical regimen. Besides, *Altun et al. (2018)*, noted that, the degree of medication

adherence was extremely little among psychotic individuals. Similarly, *Ram et al. (2019)*, who studied drug attitude and medication adherence among the mentally ill patients, and noticed low levels of medication adherence among subjects. As well, *Mehralian et al. (2019)*, who studied medication adherence in patients with psychiatric illnesses in Tehran conveyed that, the preponderance of the patients had low to modest level of medication adherence.

Besides, *Alhalaiqa et al. (2016)*, pointed that, rate of adherence to taking recommended antipsychotic medication was low among individuals with mental disorder in Jordan. Unlikely, *Demoz et al. (2014)*, conducted a study entitled "Medication adherence and its determinants among psychiatric patients in an Ethiopian referral hospital" and reported a dissimilar result, as approximately three quarters of patients had a compliance to medications recommended.

The finding of the contemporary study denoted that, the studied psychotic patients had a strong religious faith. This may linked to cultural differences. In Egyptian society religion and spirituality are fundamental conceptions that are considered as blessed; the Egyptian public is tremendously committed to religious values. This could be illuminated by the evidence that, the majority of the studied patients were allied to Islam and peak Muslims had a sturdy faith that Allah, Quran, pray, spirituality, and entreaty can treat or aid them to handle their problem. On the same track, *Altun et al. (2018)*, carried a study comprising 109 schizophrenics and concluded that patients had high religious faith scores. Also, *Triveni et al. (2018)*, emphasized that about two-thirds of psychotic patients had higher of intrinsic religiosity. Additionally, *Borras et al. (2008)*, clarified that, two-thirds of mentally ill patients considered religion as an essential aspect in everyday life.

Brightly, the existing study result publicized that, no a statistically significant correlation detected between religious faith and medication adherence among the studied psychotic patients. The study demonstrated that, although psychotic patients exhibited high religious beliefs, religiosity did not influence medication adherence. This established that, the strength of religious faith was not among factor that impacts the psychotic patients' medication adherence. Religious faith not had a precise influence on medication adherence among psychotic patients in this study because religious faith was previously dominant in their life before the disorder.

This is in parallel with *Altun et al. (2018)*, who did not clarify a statistically noteworthy relationship amongst the patients' strength of religious faith and treatment adherence. Besides, *Huguelet et al. (2011)*, clarified that, remarkably, religious beliefs whichever had no influence or adversely inclined treatment adherence among psychotic patients. Moreover, *McCann et al. (2008)*, reported that, patients with schizophrenia did not exhibit an link between the degree of connection to religious practices and medication obedience.

In a discrepancy with the above mentioned findings, *Zago'zd'zon & Wrotkowska (2017)*, concluded that, religious beliefs did not be a forecaster of poorer treatment adherence among psychotic patients. Furthermore, a study directed by *Caqueo-Urizar et al. (2015)*, revealed that, stronger religious beliefs among schizophrenic patients did not link with greater occurrence of positive symptoms and minus positive attitudes to prescribed medication. Likewise, *Mohr et al. (2012)*, study of 276 psychotic outpatients verified that, religious believes interfered negatively with treatment compliance. In this respect, an opposite association was established amid religiosity and medication adherence among schizophrenics (*Borras et al., 2008*). Correspondingly, a study on medication adherence in Ghana elucidated

that, patients with mental disorders wanted spiritual interferences for their illness since they supposed that antipsychotic medications botched to accomplish a whole recovery (Read, 2012).

The current study remarkably revealed that, the most powerful significant independent predictor factor affecting medication adherence among the studied psychotic patients was diagnosis. Results represented that, all the studied patients who displayed high level of adherence had bipolar disorders, while no one of schizophrenic patients exhibited a high level with a statistically noteworthy differences between two groups. Equivalent with the existing findings, a study conducted by *De Las Cuevas & Penate (2015)*, who stated that, patients with bipolar disorder exhibited the higher adherence than schizophrenic patients. As well, *Boorla & Srinivasa (2018)*, concluded that, the majority of non-compliance was found in the schizophrenic patients.

Furthermore, *Sultan et al. (2016)*, established that, over seventy percent of the schizophrenics were non-adherent to antipsychotic medications. Unlikely, *Demoz et al. (2014)*, mentioned that, adherence rates were detected conferring to type of disorder as 53.1%, and 69% of patients with bipolar disorder, and schizophrenia respectively.

The contemporary work found that, the duration of illness was the second significant predictor of medication adherence amongst the considered psychotic individuals, where patients who had a duration of illness from five to ten years were more likely to be adherent than patients of a duration less than five, which could be elucidated by the fact that patients seem to acquire better adherence over time. This finding is proved by *Okasha et al. (2020)*, who clarified a positive relationship between the length of a disorder and adherence. Besides, *De*

Las Cuevas & Penate (2015), indicated that, patients with high adherence experienced lengthier treatment duration than those with low adherence. On the other direction, *Azadforouz et al. (2016)*, who accomplished a study entitled "Non-compliance and related factors in patients with bipolar disorder: A six month follow-up study" conveyed no significant association between the length of illness and adherence.

In this current study, age was a momentous predictor of medication adherence among the deliberated psychotic patients, where patients those aged between 30 to 50 years were meaningfully more expected to exhibit high level of adherence than those aged less than 30 years, or more than 50 years.

This could be explained by that middle-aged patients had a greater understanding of the nature of the disorder, more experience with treatment side effects, consequences of non-adherence as probable deteriorations and hospital readmissions and this directed them to be more adherent to medication prescribed. An additional motive for a low level of adherence among younger patients may be that, they may have a smaller amount of tolerance to the unfavorable effects of antipsychotics as sexual inhibition and drowsiness, more worried about the stigma of the illness, and annoyed if treatment is compound or does not recover symptoms quickly, and these attitudes can lead to treatment cessation.

Consistently with the prior present study result, *Okasha et al. (2020)*, clarified that, non-adherence to medication regimen was greater among younger age. Also, *Demoz et al. (2014)*, stated that, middle-aged patients were meaningfully more adherent than those had 15 to 25 years. In this respect, *De Las Cuevas & Penate (2015)*, signposted a significant positive correlation between adherence and age, as adherence increased with age.

The results of the contemporary study accentuated that, the level of education was one of the significant predictor of medication adherence among the considered psychotic patients. Looking at the adherence levels across different levels of education, it was noted that the psychotic patients who had a university level significantly constituted the bulk of the patients who exhibited greater adherence level. It probably be owing to that, highly educated patients may had essential knowledge and better understanding about benefits of compliance to the prescribed medications, how to cope with prospective side effects, and consequences of poor adherence. This reveals the significance of education in heightened understanding of the illness, and side effects of suggested drugs

In view of that, *Demoz et al. (2014)*, clarified that patients attained higher educational level were more adherent than those who were uneducated by two folds and this difference was statistically significant. Moreover, *Okasha et al. (2020)*, remarked that, better adherence was linked to greater educational level. Besides, *Hussey & Gilli (2016)*, detected a significant association between adherence and patients' level of education. Although, *Sadock (2016)*, indicated that, no vibrant relationship identified between patients' level of education and their level of adherence to the recommended medications.

The existing study results indicated that, females were more adherent than males with an evident statistically significant difference amid the two groups. It is eminent that, females and males show a discrepancy in variables that have been established to touch health behaviors and attitudes toward drug utilization as educational level, income, and disease patterns. These dissimilarities could consequently

elucidate some, or all, of the gender differences found in an adherent manner.

In an equivalent direction, numerous studies publicized that, male psychotic patients were less adherent to medication than female patients (*Demoz et al., 2014; Okasha et al., 2020*). Nevertheless, a study conducted by *Puskas et al. (2011)*, demonstrated that women lean towards being less adherent than men. In that concern, *Sajatovic et al. (2015)*, stated that there were no variances between men and women on adherence level among patients with bipolar disorder. As well, *De Las Cuevas & Penate (2015)*, revealed that, no differences were noticed between males and females in relation to drug adherence.

Tremendously, the existing study is noteworthy, as it predicted plugging the gap of knowledge in relation to establishing a relation between religious faith and medication adherence among psychotic patients. The existing study findings revealed that religious beliefs didn't be a forecaster of medication non-adherence. In this study, religious faith perhaps not had a certain influence on medication adherence among the psychotic patients since it was previously fundamental to their daily live beforehand the disorder.

Nonetheless, religiosity might be supportive to advance medication adherence among psychotic patients predominantly in nations with robust religious believes comprising Egypt, as patients who trust on religious principles to handle their illness are more expected to acknowledge their illness and to cope with in a constructive way. Religious believes often affect medication adherence. Thus, it is imperative for psychiatrists to contemplate religious and spiritual opinions of psychotic patients, and

validate to what degree they advance their treatment adherence.

Conclusion:

In deduction, grounded on the present study results, no a statistically significant correlation was established between religious faith and medication adherence among the studied psychotic patients. The existing study elucidated statistically significant predictors relating to medication adherence among considered psychotic patients, the diagnosis was the dominating one, followed by duration of illness, age, level of education, and sex.

Recommendations:

Built on the findings of the contemporary study, the subsequent recommendations are proposed:

- 1- Planning and implementing psychotherapeutic interventions for psychotic patients to increase the levels of adherence to their treatment regimen utilizing motivational interviewing, and cognitive behavioral approaches.
- 2- Designing and applying educational training programs for psychiatric nurses with the intention of advancing their awareness and skills concerning the contemporary approaches to strength patients' adherence by means of utilizing incentives, telephone reminder, and Whats App aide memoire.
- 3- Psychotic patients should be actively shared in treatment plan through bearing in mind their preferences, treatment response, and side effects before recommending a certain medication
- 4- Patients' families and relatives should also be encompassed in treatment plan to support the psychotic patients to adhere to their prescribed drugs.
- 5- Religious beliefs should be contemplated by therapists and psychiatrists who work with psychotic patients and validate to what degree they improve their medication adherence. Besides, they should reflect religiosity in treatment strategies for their patients.
- 6- Further studies must be carried out to disclose the factors that contribute to non-adherence to treatment regimen among psychotic patients.

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