

Social Support and Its Relation with Medication Adherence among Patients with Psychiatric Illness

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Abstract: Social support can positively influence patients' health outcomes through a number of mechanisms, such as increases in patients' adherence to medication. So, this study aimed at assessing the relationship between social support and the adherence to treatment in psychiatric patients. A descriptive correlational design was utilized in this study. This study was conducted in Minia hospital for psychiatric medicine and addiction. The sample included all psychiatric inpatient, the total number of them 53 patients. For measuring the variables of the study, there were three tools used in doing this, they are as follows: Personal and clinical data questionnaires, Drug Attitude Inventory (DAI) and Multidimensional Scale of Perceived Social Support (MSPSS). Results of this study revealed that, males represent 77.4 % of the sample, and more than half of the sample 50.9% having the diagnosis of schizophrenia. There were statistically significant differences between male and female patients as regards social support. There were also statistically significant differences between diagnoses with DAI. Among the patients, 62.3% didn't adhere to the treatment, and 37.7% were adherent. There were highly significant positive correlations between DAI score with social support score. The study recommends the importance of collaboration of patients and their relatives with health team members is needed to improve treatment adherence.

Keywords : social support treatment adherence/ psychiatric patients.

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I. Introduction

Health care professionals managed to facilitate drug administration in the acute care setting in order to create a sense of confidence in practitioners that adherence will continue in the post-acute setting. However, the management of many psychotic disorders faces multiple problems in medication adherence, leading to numerous avoidable emergency room visits and hospitalization (Hershman et.al, 2011).

(Brown, 2015) defined social support as the extent to which a person's basic social needs are met through interaction with others and feeling of connection that individual's needs are recognized and acknowledged that people value his needs and care about him when he needs help and feels alone. According to (Rabinovitch, et. al, 2009) poor social support from family and friends may be the reason behind non-adherence that is particularly potent in first-episode psychosis.

Concerning social support as an independent predictor for medication adherence (Fenton et. al, 1997) reported that patients with low levels of social support were about twice more likely to be quite optimally adherent. This finding resembles that of Bolkan et al. (2013), Rabinovitch et al. (2013), and Razali et al. (2014) that have all shown significant relationship between poor social support and medication non-adherence among psychiatric patients. These results were prompted by some reasons which are : (a) the family is considered a basically reinforcing factor for drug adherence for psychiatric patients, (b) according to social factor hypothesis, the chronic and disabling nature of most severe mental illness (SMIs) have a negative effect on the socioeconomic status of the patients. So, the price of the medications lies basically on the family and other members of the patients' social networks. Therefore, poor social support base may be an hindrance to optimal adherence.

It is impossible to ignore the social support in adherence to treatment among psychiatric patients. Since social support is an important factor in the treatment of disorder, it should also provide adherence to treatment while assisting patients (Kelleci& Ata, 2011). Family and its environment are considered the most important factor of social support for individuals with a psychiatric disorder. Family environment and psychosocial factors importantly determine the well-being of patients. Presence of social support delivers long-term positive outcomes in the treatment of patients (Yildirim&Ekinci, 2010).

In this respect (Faraji et al., 2015) stated that coping with stress is a basic theoretical model that is utilized in evaluating social support. Social support is approved as a defense mechanism against stressful conditions and it positively affects strengthening and coping with disease. As a reduction in patients' social support will cause a disturbance in regular practitioner control and a negative effect on drug adherence. Therefore, social support has a vital importance for medication adherence. (Çobanoğlu, et al., 2003).

Also (Cohen, 2002) noticed that social support has a great positive effect on patients' health outcomes through a number of means like increasing patient adherence to prescribed treatment and their perceptions of quality of life, decreasing levels of depression, facilitating better access to health care, and better stress handling through improved (psychological, neuroendocrine, nutritional and immunologic) functioning. In a study by (Dimatteo, 2004) the presence of social support from practical, emotional, and dimensional perspectives greatly affects patients' medication adherence. Other studies by (Frazier, et al., 2013) and (Hanif, et al., 2013) reported the positive effect of social support on medication adherence.

Significance of the study

(Mahaye et al., 2012) stated that the adherence to the medication regimen is the most vital factor of success in treating patients with severe mental illness. Thus, non-adherence to treatment means patients do not carry out the clinical recommendations of a treating physician. Non-adherence to medications is a complicated and multidimensional health care problem since it is considered a major hindrance in making treatment efficacy in research settings effective in clinical practice (Hugtenburg, et al., 2013). Finally, non-adherence rates among psychiatric patients ranged between 30% and 65% (American Pharmacists Association 2013). While in Egypt the rates were 74% (Kenfe, et al., 2013), (Amr, et al., 2013).

Research question

Is there a relation between social support and medication adherence?

Aim of the study

The aim of the study was to assess the relationship between social support and medication adherence among patients with psychiatric illness

Research design: Descriptive correlational research design was used in this study.

Setting of the study: This study was conducted in Minia hospital for psychiatric medicine and addiction, this hospital is affiliated to ministry of health.

Subjects & sample: A convenient sample of 53 psychiatric patients was recruited in the study.

Tools of data collection:

1- Personal and clinical data questionnaires:

The researcher developed an interview questionnaire sheet and covered the following items: Personal data, date of admission, duration of illness and diagnosis.

2- Drug Attitude Inventory; DAI (Hogan et al, 1983):

The DAI consists of a 30 questions each with true/false answers, pertaining to various aspects of the patient's perceptions and experiences of treatment. The DAI-30 contains 15 items that a patient who is fully adherent to their prescribed medication (and so would be expected to have a 'positive' subjective response to medication) would answer as 'True', and 15 items such a patient would answer as 'False'.

To calculate the score from a set of answers, each 'positive' answer is given a score of 2, and each 'negative' answer is given a score of 1. The total score for each patient is calculated as the sum of all patients' responses. A high total score indicates a positive subjective response (adherent) and a low total score indicates a negative subjective response (non-adherent).

3-Multidimensional Scale of Perceived Social Support (MSPSS).

It was adopted from (Canty-Mitchell & Zimet, 2000; Chou, 2000). The MSPSS has been shown to be relatively free of social desirability bias. It consisted of 12-item MSPSS it was used to assess three sources of support: family support, friends support and significant others support. Participants completing the MSPSS are asked to indicate their agreement scored on a 3-point Likert-type structure; from 1 "strongly disagree" to 3 "strongly agree". That modified from 7-point Likert-type, because the difference between adjacent categories is minor. So, when the modification done, the scale is easier to be responded by subjects.

Scoring system sum all scale item scores then divide by 12. In this approach any mean scale score ranging from 1 to 2 considered low support; a score of 2.1 to 3 considered moderate support; a score from 3.1 to 5 considered high support. The internal consistencies of the subscales (Cronbach's alpha) are: 0.78, 0.76 & 0.70 for family support, friends support, and significant other support respectively. The highest mean score represents greater social support.

Procedure

A review of related literature covering various aspects of the problem was done using available journals and books to be acquainted with the research problem and to select the appropriate study tools. An official permission was granted from the director of Minia hospital for psychiatric medicine and addiction at Minia governorate to conduct the study. The aim of the study was explained by the researcher through direct personal communication with the patients for getting their approval prior starting their participation in the study to gain their cooperation, as well as voluntary participation and confidentiality were assured

Ethical Consideration

The purpose of this study was explained for every interviewed psychiatric patient (males & females).The patient has the ethical right to agree or refuse participation in the study, informed consent to participate in the study was obtained from educated patients and verbal one obtained from uneducated psychiatric patients, they informed that the information obtained will be confidential and used only for the purpose of the study and there was no any risk for their participation.Also, each patient has the right to withdraw from the study at any time without any rational.

Pilot Study

A pilot study was done to evaluate the questionnaires clarity and applicability as well as the time needed to fulfill each sheet. It was carried out on a sample of 5 patients and they were excluded from the actual study sample.

Statistical Analysis

Subjects' responses to each category were analyzed, categorized and coded by investigator then tabulated separately by using the statistical package for social science (SPSS) version 21. Descriptive statistics were calculated as frequency, percentage, mean, stander deviation. T-test and ANOVA test and Pearson correlation were also used among studied values. Probability (p-value) less than 0.05 is considered significant and less than 0.001 is considered highly significant

Limitations of the study

- 1-The hospital is far to reach and difficult in the transportation.
- 2- The capacity of hospital is only 53 beds for both genders.

II. Results

Table (1): distribution of studied sample according to their socio-demographic data (n=53).

Item			
		No.	%
Gender	<i>Male</i>	41	77.4
	<i>Female</i>	12	22.6
Age	<i>20-29 years</i>	18	34.0
	<i>30-39 years</i>	18	34.0
	<i>40-49 years</i>	13	24.5
	<i>50-55 years</i>	4	7.5
Educational level	<i>Illiterate</i>	7	13.2
	<i>Read and write</i>	6	11.3
	<i>Preparatory school</i>	7	13.2
	<i>Elementary school</i>	3	5.7
	<i>Secondary school</i>	22	41.5
	<i>University</i>	8	15.1
Marital status	<i>Single</i>	19	35.8
	<i>Married</i>	19	35.8
	<i>Divorced</i>	12	22.6
	<i>Widow</i>	3	5.7

Item			
		No.	%
Job	<i>Working</i>	25	47.2
	<i>Not working</i>	28	52.8
Type of job	<i>Worker</i>	35	66.0
	<i>Teacher</i>	3	5.7
	<i>Engineer</i>	2	3.8
	<i>Others</i>	13	24.5

Table (1) shows that the most of studied sample were male (77.4%) their ages were between 20-39 years old and (41.5%) of them were graduated from secondary school. Also, (52.8%) not working and had lower job (66%) of them were workers.

Table (2): distribution of studied sample according to their medical data (n=53).

Item			
		No.	%
Diagnosis	mania	7	13.2
	schizophrenia	27	50.9
	depression	14	26.4
	schizoaffective	5	9.4
Duration of illness	1-3 y	22	41.5
	3-6 y	17	32.1
	6-9 y	4	7.5
	more than 9 y	10	18.9
Chronic illness	Yes	4	7.5
	No	49	92.5

Table (2) illustrates that (50.9%) of the studied sample were diagnosed with schizophrenia and the majority of them were free from chronic illness (92.5%).

Table (3): differences between male and female patients in relation to total drug attitude inventory and total social support scales.

Total scales	Gender		F	p-value
	Male	Female		
	Mean ± SD	Mean ± SD		
Total drug attitude inventory	14.34± 6.755	12.17± 5.540	3.559	.065
Total social support scale	1.7378±.98945	1.4236±.91733	5.327	.025

Table (3) demonstrates the differences among the total mean scores of the two scales in relation to their gender. It was noted that there were no statistically significant differences between male and female patients as regards to drug attitude inventory and social support scale at p-value= (0.65). While there were statistically significant differences between male and female patients as regards to social support at p-value= (.025). Also it was noted that males had a high mean score than females in relation to the two scales.

Table (4): Differences between working and non-working patients in relation to total drug attitude inventory and total social support scales.

Total scales	Job		F	p-value
	Working	Not working		
	Mean ± SD	Mean ± SD		
Total drug attitude inventory	14.24± 6.722	13.50 ±6.426	.763	.386
Total social support scale	1.7967±1.01439	1.5506±.93962	3.000	.089

The above-mentioned table shows that, there were no statistically significant differences between working and non-working patients as regard to drug attitude inventory and social support scale at p-value= (0.386) and (0.089) respectively, with the highest mean score for working patients.

Table (5): differences between socio-demographic and medical data of the studied sample with total drug attitude inventory and social support scale(n=53).

Item	Category	Drug attitude inventory				Social support			
		Mean	SD	F	P	Mean	SD	F	P
		Age	<i>20-29 years</i>	16.06	7.376	1.673	.185	1.9167	1.03097
	<i>30-39 years</i>	14.06	5.461	1.5787	.96443				
	<i>40-49 years</i>	11.62	6.035	1.5192	.94229				
	<i>50-55 years</i>	10.25	6.652	1.4167	1.00000				
Educational level	<i>Illiterate</i>	12.86	5.305	1.429	.232	1.5000	.99652	1.456	.222
	<i>Read and write</i>	12.83	5.419			1.2639	.85052		
	<i>Preparatory school</i>	15.71	7.697			1.7381	1.02450		
	<i>Elementary school</i>	21.67	3.512			2.8889	.09623		
	<i>Secondary school</i>	12.27	6.326			1.5417	.93815		
	<i>University</i>	15.25	7.363			1.9375	1.09177		
Marital status	<i>Single</i>	13.68	7.609	.196	.899	1.6535	.99313	.793	.504
	<i>Married</i>	13.95	6.231			1.6579	.99764		
	<i>Divorced</i>	14.58	6.317			1.8889	1.01711		
	<i>Widow</i>	11.33	.577			.9167	.00000		
Diagnosis	<i>schizophrenia</i>	14.00	5.929	5.873	.002*	1.6451	.96951	3.521	.022*

(*) P value is significant at ≤ 0.05

As shown from table (5) that there were no statistically significant differences between socio-demographic data with drug attitude inventory and social support scale. while there were statistically significant differences between diagnosis with DAI at p-value= (0.002) and social support scale at p-value= (0.022). Also it was observed that the highest mean scores were for patients whose age ranged from 20-29 years old and patients who graduated from elementary schools. Furthermore, it was observed that highest means were for patients who are divorced and patients had medical diagnosis of mania, and who their duration of illness was from 3-6 years.

Table (6): correlation between drug attitude inventory scale and social support scale (n=53)

	Mean ± SD	r-value	P-value
Drug attitude inventory	13.85± 6.514	.917	0.000**
Social support scale	1.6667±.97402		

(*) P value is significant at ≤ 0.001

As observed from table (6) that, there were highly significant positive correlations between DAI score with social support score ($r= .917$, at $P \leq 0.000$).

Table (7): Frequency distribution of the studied sample according to their adherence to medication and social support.

	Adherence to medication		Levels of social support	
	Adhere	Not adhere	Low social support	High social support
	Number	20	33	33
Percent	37.7%	62.3%	62.3%	37.7%

It was observed that, 62.3% of total sample were not adhere to treatment as well as having low social support

III. Discussion

The most likely factor to predict psychiatric patients' compliance to medication is the positive attitude toward medication (Lan (2013)). Also, it is difficult to deny the role the social support play in adherence to treatment in psychiatric patients. As the presence of social support is a positive factor in the recovery of disorder, it should assist patients to adhere to treatment (Kelleci & Ata, 2011). So, the aim of this study was to assess social support and its relation with medication adherence among psychiatric patients.

Concerning the socio-demographic findings of the study; it was determined that the majority of patients who participated in the study were male (77.4%) their ages were between 20-39 years old and (41.5%) of them were graduated from secondary school. Also more than half of them (52.8%) not working and have a lower job. (66%) of them were workers. In the same respect, Grima et al., (2013) reached that more than half of the studied sample (59.7%) were males. The majority (69.7%) were between 20–40 years old with a mean age of 28 years and (23.7%) of them were non workers.

The results of the present study revealed that (50.9%) of the studied sample were diagnosed with schizophrenia and the majority of them were free from chronic illness (92.5%). In contrast, Fawad (2008) found that, some participant patients (41.3%), had non-affective psychotic disorder followed by depression (29.8%) then bipolar disorder, (23.4%).

Also, the researcher noticed that the highest mean scores for non-adherence were for patients whose age ranged from 20-29 years old. This is may be due to younger patients show higher non-adherence rates than older one because at the beginning of the disease, patients may distrust the diagnosis and the need for treatment, and show poorer tolerance to adverse effects. This resembles the results of Draine and Solomon (1994) as they noted that more positive attitudes toward medication compliance are associated with old age. Similarly, Lee (1993) found that noncompliance was highly related to younger age and earlier age of occurrence.

It was noticed that the highest mean score for non-adherence was for patients who graduated from elementary schools and patients who are divorced because of low socioeconomic status and they lost the source of support in their life. This result may resemble the results of Velligan (2009) who found that economic status and low educational level are among the risk factors of non-adherence. Thus, even when every patient should be individually evaluated, a highest-risk factor is male and young patient with low socioeconomic status.

A study by Gibbie et al., (2007) found that adherence was highest among divorced individuals. Living situation (e.g., living with someone) had a positive effect on adherence in many studies. He also found that living with a spouse or relative had a significant effect on adherence. In this respect, Fawad (2008) noticed that, adherence rate among individuals living with others were 1.38 times higher than among those living alone and the risk of non-adherence was 1.17 times higher among individuals living alone.

In this respect Aylaza & Kılınç (2017) were examining patients' adherence to medication according to the people they lived with; patients who lived alone had an average adherence of 2.38 ± 1.47 , those who lived with their family had an average of 3.11 ± 1.19 , those who lived with their partners and children had an average of 3.00 ± 1.25 and those who lived with significant other had an average of 3.00 ± 1.06 . In terms of adherence to treatment the difference between them was significant ($p: .025$).

The current study also showed that, there were no statistically significant differences between male and female patients as regard to drug attitude inventory p -value= (0.65). This may be attributed to that gender doesn't affect the response toward drugs. While, there were statistically significant differences between male and female patients as regard to social support at p -value= (.025). Also it was noted that males have high mean scores than females in relation to non-adherence and low social support. This is may be due to several factors

such as an acceptance of the illness, inability to manage the symptoms and stress management skills. As a result, their psychotic symptoms may increase.

In the present study, there were no statistically significant differences between working condition and drug attitude inventory and social support scale at p -value= (0.386) and (0.089) respectively. With the highest mean score for working patients in their negative attitude to medication, this may be due to the contradiction between negative effects of antipsychotic drugs with their activity of daily life.

That was the same with Aylaza&Kılınç (2017), who found no significant relation was found between patients' gender, working condition, diagnosis, employment and presence of comorbid disease outside of psychiatric illness.

Alene et al., (2013) had a contradictory result as he found patients in the age range of 26–35 years were found to be significantly more adherent than those aged 15–25 years. Females were twice in adherence compared to males. Patients with tertiary education were approximately three times more adherence than non-educated patients, and this difference was statistically significant. However lower proportions of single, divorced, and widowed patients were adherent to their medications, there was no statistically significant relation between marital status and adherence level.

The present study also revealed that, there were statistically significant differences between diagnosis and attitude toward medication at p -value= (0.002) and social support scale at p -value= (0.022). It was observed that highest mean score for non-adherence to medication was for patients with mania, which may be interpreted as manic patient have both poor judgment and lack of insight which affect negatively their adherence to medications. This result is consistent with the result of Clatworthy (2009) who stated during manic episodes the higher prevalence of non-adherence may be related to a lack of insight and the cognitive impairment during such episodes.

There were highly significant positive correlations between drug attitude and social support ($r= 0.917$, at $P \leq 0.000$). It was found that, 62.3% of total sample were having a negative attitude toward their medications and lack of social support. causes for non-adherence are numerous, including personal factors such as poor insight, health beliefs like denying medication, and drug factors as poor efficacy, adverse effects of drug, medication interference with life goals, complicated treatment regimen, as well as social factors such as stigma toward their illness and lack of social support (Potkin et al., 2013, Smeraldi et al., 2013). Although social support positively affects adherence, it is also possible that adherence affects social support, individuals who adherent receiving support more than those who do not.

In this respect, social support was associated with better adherence in a study by Dassa, et al. (2010) whereas Emsley (2010) found many results in regard to this relationship. One recent study indicates the attitudes toward medication held by the person social environment which can also be a fact of medication discontinuation. The potential effect of causal beliefs about the disorder on medication attitudes and adherence has not examined in people with psychiatric disorders so far. However, in a study on healthy individual, it was found a biological causal model increased the motivation to take medication.

Moreover, Aylaza&Kılınç (2017) examining the correlation between adherence to treatment and mean scores of social support, a positive correlation was determined between medication adherence and total mean scores of social support. The patients with a higher adherence to medication were observed to have higher social support in total. It was observed that as the mean scores of social support increased, patients' adherence to medication increased.

The same author added that, correlation analysis carried out among adherence to medication and social support in the study; a significant correlation was determined the positive relation between social support and medication adherence. Patients with adherence to treatment had higher total mean scores of social support scale. As mean scores of social support increased, adherence to medication increased accordingly.

In parallel with the study (Kelleci & Ata, 2011) carried out a study examining the drug adherence among patients and mean scores of social support, they noticed patients receiving social support were have a higher drug adherence. Furthermore, Lindfors et, al., (2014) found patients who had a high social support before the treatment showed a more adherence to treatment and patients who had a lower social support showed fewer adherences to treatment

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