

Factors Affecting Re-hospitalization of Schizophrenic Patients at Benha Mental Health Hospital

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ABSTRACT

Background: Re-hospitalization is considered a big problem, a source of frustration and suffering for both patients and their families because this phenomenon also negatively affects health care system due to the increasing cost of care. **Aim of the study:** This study aimed to assess factors affecting re-hospitalization of patients with schizophrenia at Benha Mental Health Hospital. **Design:** A descriptive design was utilized to achieve the aim of the study. **Setting:** The study was conducted at Benha Mental Health Hospital which is affiliated to General Secretariat. **Sample:** a convenience sample of 60 patients with schizophrenia (46 male, 14 female patients) who were hospitalized at the above mentioned setting. **Tools:** A structured interviewing questionnaire schedule consisting of two parts: to assess socio-demographic characteristics, clinical data of patients with schizophrenia, and their knowledge about factors affecting re-hospitalization. **Results:** Findings demonstrated that more than three quarters of the studied patients with schizophrenia had poor knowledge about factors affecting re-hospitalization. **Conclusion:** There are many factors affecting re-hospitalization of studied patients with schizophrenia such as non compliance with medications, negligence of follow up after discharge, poor relationship between patients and their families and poor relationship with the hospital staff. **The study recommended** that discharged patients with schizophrenia should be followed up on an ongoing basis throughout- patients' appointments, home visits or telephone calls to reduce patients' re-admission to hospital.

Keywords: Schizophrenia, Risk Factors, Re-hospitalization.

INTRODUCTION

Schizophrenia is a serious mental disorder that is characterized by structural deformities of thought and perception. The disorder affects the very basic functions which attribute the sense of individuality, uniqueness and self determination to the person. The behavior can be seriously disturbed during certain phases of the disorder and thus have unfavorable social consequences (McGurk & Mueser, 2011).

Schizophrenia is also a mental illness that demands vigilance. Even with a good response to initial treatment, schizophrenia symptoms often return. A return or worsening of symptoms following a period of remission is called a relapse. The sooner the symptoms of a schizophrenia relapse are recognized, the greater the likelihood is of regaining control (Chirsty, 2011).

Re-hospitalization is considered a big problem because it is usually associated with substantial direct mental health costs that extend beyond the cost of

hospitalization to other costly outpatient services and medication costs and it has a lot of effects to patients, caregivers, the health sector and the country economy at large. Ideally, patients tend to deteriorate in their level of functioning with each relapse; hence their contribution to economic activities diminishes. Caregivers have to take care of the patient's bills in the hospital once re-admitted which becomes very costly. The health sectors is imposed with a large burden and has to deal with the higher number of patients re-hospitalization (Ascher & Gask, 2010). There are several factors that have been identified by the researchers which lead to re-hospitalization of patients with schizophrenia (Ascher & Gask, 2010). These factors include:

Relapse in schizophrenia is broadly recognized as the re-emergence or the worsening of psychotic symptoms with significant disturbance in functioning and social behavior or re-hospitalization in the year after hospital discharge. More specifically, certain criteria are used to define relapse; they include aggravation of positive or negative symptoms, hospital admission in the past 6 months, and more intensive case management and/ or a change in medication (Schennach et al, 2012). According to Johnstone, relapse could also be defined as Type I, the reappearance of schizophrenic symptoms in a patient who has been free of them following the initial episode, and Type II, the exacerbation of persistent positive symptoms (Christy, 2011).

Additionally, many other factors can trigger relapse such as not taking medication regularly or correctly as prescribed, illicit drugs or alcohol, not sticking with a healthy routine, too much stress as impairment in cognition and coping leaves patients vulnerable to stressors. Also, Limited accessibility of community resources, such as public transportation, housing, entry-level and low

stress employment and social services make it more likely that a mental disorder or a relapse will leaves individual without access to social support (Boyed, 2012 & Edelman, E., 2010).

Non-adherence to Treatment : The attitude of the patient towards treatment can also affect effectiveness of the drugs in that the treatment of psychotic conditions that require long-term regimens of treatment as patients with a negative attitude towards treatment, which can result from adverse events, are also more likely to be non adherent (Masand & Narasimhan, 2006). This non adherence to medication has been associated with re-hospitalization and is also said to be the major cause of relapse in conditions like schizophrenia and this contributes to a poorer outcomes, high cost of treating psychosis , adverse events, and lack of insight (Banerjee e t al., 2010).

Family atmosphere: The outcome of a mental disorder is partly associated with the type of support a patient receives from the family. If the family members are understanding and do not pass negative remarks to the patient then the patient is likely to be in the community for a longer time, relapse and re-hospitalization can be prevented (Mathers et al., 2010& Jan et al., 2006).It is stated that there is good evidence that the emotional atmosphere in the home of patients with schizophrenia, generated by the patient's key relatives, exerts a significant influence on the course of schizophrenia. In some instances, family members of affected individuals prefer to isolate themselves from any contacts with others which lead families to become broken up and lose the close ties and the support that comes from closeness creating even greater isolation, relapse and hence re-hospitalization (Sariah, 2012).

Expressed Emotion: Expressed emotion social and environmental attributes are significant factors that have

been statistically associated with psychotic relapse in schizophrenia. The presence of high levels of critical comments, hostility, or emotional over involvement among significant others of patients with schizophrenia are predictive of higher likelihood of psychotic relapse in the nine to twenty four months following hospital discharge (Battaglia, 2006 & Cutting et al., 2006).

Stress is part of life and we all deal with different kinds of stress on daily basis. However the stress vulnerability model states that in a person who is vulnerable to mental illness or is already mentally ill, biological and environmental stressors can occur (Watson & Corrigan, 2010). Stress can cause those affected to have suicidal thoughts, health problems abnormal thinking patterns, impair judgment, and even delusions and paranoia as well as other mental health related symptoms and relapse occur, so re-hospitalization is necessary (Penn & Martin, 2010).

Stressful life events are often associated with the onset of a psychotic relapse, usually in the 3 weeks prior to the relapse and hence hospitalization is necessary. Life stressors may be both internal (e.g. thoughts and feelings) and external (e.g. death of a close relative). Other stressors include chronic interpersonal stress, poverty, homelessness, criminal victimization and stigma. Patients with schizophrenia are more sensitive and more susceptible to the negative effects of even minor stressors (Kazadia et al., 2008).

Hospital environment and way of discharge are another factor which leads to re-hospitalization of patients with schizophrenia. It can be accepted that the institutionalization was worse than the mental illness. In fact being for long periods at hospital makes the patient prone to problems of institutionalization, thus becoming more dependent on the hospital

and is more separated from society, community and reality. This dependency hinders his capacity to work outside the hospital, so the patient with schizophrenia cannot be independent and becomes a burden on his family (Nkangala, 2011 & Suzuki et al., 2010).

Stigma: The stigma of mental illness also leads to community misunderstanding and discrimination. One of the most stigmatizing groups includes persons with schizophrenia. This stigmatizing has robbed those individuals of work, independent living, and meaningful relationship (Boyd, 2008). Also, stigma of mental illness has become an indication for unpleasant experiences, such as bringing shame to the family or social exclusion. Having a diagnosis of schizophrenia does not only affects one's health but also, carries all the prejudice, discrimination and social exclusion, for example many individuals are attacked on the street, rejection in the society and denial of employment because they were known to have had mental health problems (Gamble & Brennan, 2006 & Jenkins et al., 2009).

Aim of study

The study aims to assess factors affecting re-hospitalization of patients with schizophrenia at Benha Mental Health Hospital.

Research Questions:-

What are the factors affecting re-hospitalization of patients with schizophrenia at Benha Mental Health Hospital?

Materials and Method

Research design: A descriptive design was utilized to achieve the aim of the study.

Setting: The study was conducted at the Psychiatric and Mental Health Hospital at Benha City, which is affiliated to General Secretariat. The Mental Health Services in this hospital are offered through the in-patient as well as the out-patients clinics for all age groups. Care is provided by multidisciplinary team, psychiatrists, nurses, social workers and psychologists. The hospital has 6 departments (5 for male and 1 for female), with a capacity of 232 beds and the total number of patients with schizophrenia are 185 patients (74 voluntary and 111 involuntary admissions).

Sample: The target populations of this study were all convenient patients with schizophrenia who were hospitalized at the above mentioned setting. The total number of subjects was 60 patients (46 male, 14 female patients) who fulfilling the following **inclusion criteria:**

1-Patients who pass the acute stage and able to communicate.

2-Hospitalized twice or more.

3-Patients who stay in hospital not less than 2 months.

Tools of the study:

Data of this study were collected by using the following tool: A structured interview questionnaire was developed by the researcher based on literature review which consists of two parts:

Part one includes: socio-demographic characteristics and clinical data questionnaire to assess:

A- Socio-demographic characteristics of the patients with schizophrenia such as: age, sex, marital status and level of education, occupation, position in family and number of patient's family members.

B-Clinical data of patients with schizophrenia such as duration of illness, mode of admission to hospital, any one in family suffering from mental illness and frequency of re-hospitalization.

Part two:- A structured interview questionnaire sheet concerning knowledge about factors that leading to re-hospitalization of patients with schizophrenia. The sheet contains close-ended questions and the patients were asked and responded to those questions by yes or no and multiple choice questions such as: Causes of current admission to hospital, symptoms felt before hospital admission, patients' adherence to medication, Follow up after discharge, relationship with family members, attitude of hospital staff toward patients. As well the same questionnaire contains open-ended questions such as patient's suggestions from medical team, family members at home and community about how to decrease re-hospitalization rate.

Method of study

Preparation phase:-

This phase included reviewing of relevant literature and different studies related to the topic of research, using textbooks, articles, magazines, periodicals, and internet search was done to get a clear picture of all aspects related to the research topic, then a structured interview questionnaire was developed by researcher to determine the factors affecting re-hospitalization of patients with schizophrenia at Benha Mental Health Hospital.

Official approval:

Before starting any step in the study, an official letter was addressed from the Dean of Faculty of Nursing / Benha University to the General Director of the Psychiatric and Mental health Hospital,

requesting their co-operation and permission to conduct the study. After the explanation of the study objectives to them, the researcher obtained their written permission.

Content validity:

Before starting the data collection, the tool was tested for, its content validity which was done by a jury by a group of experts in the psychiatric field to check the relevancy, coverage of the content and clarity of the questions. Accordingly modifications were done based on their comments such as; modifying some words to give the right meaning of the phrase, adding some phrases or questions for example: symptoms felt before hospital admission, patient's suggestion from the medical team, parents outside hospital and community about how to decrease re-hospitalization rate

Reliability:

Test-retest reliability was applied. The tool proved to be strongly reliable (Alpha =0.0001 "strong reliability").

Pilot study:

A pilot study was carried out before starting the data collection. It was conducted for 10% of the total sample (6

patients). The purpose of the pilot study was to test the applicability, feasibility, clarity, objectivity of the tool. In addition, it served to estimate the approximate time required for interviewing the patients as well as to find out any problems that might interfere with data collection. **These patients were excluded later from the actual study sample.**

Ethical considerations:

An oral consent was obtained from each patient (male/female) to be involved in the study after explaining the purpose and importance of the study. The subjects who agreed to participate in the study were reassured about confidentiality of the information gathered and its use only for the research purpose. As well, they were informed about their right to withdraw from the study at any time without giving a reason.

Limitations of the study:

- It was difficult to gain the co-operation of some patients.

-It was difficult to gain attention of some patients during interview as some patients leaving answer of the question and talking about any other thing or going out the room and talking with his/ her friends then coming again.

Results:

Table (1):- Distribution of studied patients with schizophrenia according to their socio-demographic according to their socio-demographic characteristic

Socio-demographic characteristic	Schizophrenic patients	
	N	%
Age(in years)		
20-	10	16.7
30-	23	38.3
40 +	27	45.0
Mean ± SD	38.55 ± 9.78	
Sex		
Male	46	76.7
Female	14	23.3
Marital status		
Single	37	61.7
Married	13	21.7
Divorced	10	16.6
Education level		
Illiterate	20	33.3
Read and write	9	15.0
Basic education	14	23.3
Secondary	14	23.3
University	3	5.1
Occupation		
Unemployed	37	61.7
Free work	20	33.3
Employee	3	5.0
Residence		
Rural	49	81.7
Urban	11	18.3
Position in family		
Son	32	53.4
Daughter	11	18.3
Father	9	15.0
Mother	3	5.0
Husband	5	8.3
*With whom the patient lives		
Son	14	23.3
Daughter	11	18.3
Father	34	56.6
Mother	49	81.7
Wife	13	21.6
Brother	35	58.3
Sister	34	56.6
Family number		
3-6	33	55.0
> 6	27	45.0

Table (2):-Distribution of studied patients with schizophrenia according to their clinical data (n=60).

Clinical data	Schizophrenic patients	
	N	%
Duration of illness		
< 10 years	20	33.3
10-	26	43.4
20-	14	23.3
Mean ± SD	15.40 ± 7.26	
Frequency of re-hospitalization		
Twice	15	25.0
Three times	33	55.0
More than three times	12	20.0
Mean ± SD	1.95 ± 0.67	
Mode of admission		
Voluntary	19	31.7
Involuntary	41	68.3
By whom involuntary admission(41)		
Family	26	87.8
Police	2	4.8
Transferred from other hospital	3	7.4
Family history about mental illness		
Yes	17	28.3
No	43	71.7
If (Yes) What is degree of relationship (17)		
Father / Mother	5	29.4
Brother / Sister	3	17.6
Uncle / Unte	7	41.3
Grandfather / Grand mother	2	11.7

Table (3):- Distribution of studied patients with schizophrenia according to their knowledge about factors affecting re-hospitalization (60).

Knowledge about factors affecting re-hospitalization	Schizophrenic patients	
	N	%
Good	7	11.7
Average	3	5.0
Poor	50	83.3

Table (4):- Distribution of studied patients with schizophrenia according to their adherence to medication as a factor leading to re-hospitalization (n=60).

Adherence to medication	Schizophrenic Patients	
	N	%
Adherence to medication		
Yes	16	26.7
No	44	73.3
*Causes of adherence (16)		
Prevent feeling of disease symptoms	16	100.0
Reduce my admission to hospital	16	100.0
Continue relationship with other	8	50.0
*Causes of non adherence (44)		
Not need's for medication	33	75.0
Side effects of medication	27	61.3
Effect of medication on working	2	4.5
Changing drug dose without doctor advice		
Yes	29	48.3
No	31	51.7
Stopping medication when improved		
Yes	41	68.3
No	19	31.7
Knowing medication you take		
Yes	21	35.0
No	39	65.0
*If (yes) what type of medication taking(n=21)		
Haladol	11	52.3
Safenaz	11	52.3
Secodal	21	100.0
Aknetone	21	100.0
Deprian	10	47.6

Note: Answers are not mutually exclusive.

Table (5):- Distribution of studied patients with schizophrenia according to their follow up after discharge as a factor leading to re-hospitalization (**n=60**).

Follow up after discharge	Schizophrenic patients	
	N	%
Taking any instructions about follow up after discharge		
Yes	36	60.0
No	24	40.0
If yes these instructions about (36)		
Causes of disease	3	8.3
Treatment	28	77.7
Relapse prevention	34	94.4
Source of these instructions (36)		
Doctor	31	86.1
Nursing staff	21	58.3
Social worker	13	36.1
Follow up after discharge		
Yes	14	23.3
No	46	76.7
Causes of not follow up(46)		
No outpatient near to me	2	4.3
Don't need to follow-up	44	95.7

Note: Answers are not mutually exclusive.

Table (6):- Distribution of studied patients with schizophrenia according to their relationship with family members and their family attitudes toward patients' illness (n=60).

Relationship with family members	Schizophrenic Patients	
	N	%
Relationship with family members		
Convenient	6	10.0
Very good	25	41.7
Have problems	29	48.3
*Family attitude toward patient illness		
Sympathizing	22	36.6
Locked me and not care for me	38	63.3
Preventing me from every thing	34	56.6
Afraid	38	36.6
Feeling stigma	21	35.0
Family members differentiate between you and others at home		
Yes	36	60.0
No	24	40.0
Family members giving opportunity to participate in the conversation		
Yes	28	46.7
No	32	53.3
Family members helping to take responsibility		
Yes	27	45.0
No	33	55.0
Family members sharing your problems		
Yes	25	41.7
No	35	58.3
whom of the family members are actually giving them support and hearing you		
Father	3	5.0
Mother	21	35.0
Brother	12	20.0
Sister	3	5.0
Grand father	1	1.7
No one	13	21.6
Other	7	11.7
*Spending your time at home		
Sitting (doing nothing)	30	50.0
Cleaning and cooking	18	30.0
Watching TV	60	100.0
Read and write	3	5.0
Drinking tea and cigarette smoking	55	91.6
Seeping	15	25.0

Note: Answers are not mutually exclusive

Table (7):-Relationship between socio-demographic characteristics of studied patients with schizophrenia and their frequency of re-hospitalization (n=60).

Socio- demographic characteristics	Frequency of re-hospitalization						X2	P
	Twice		Three		More than three			
	N	%	N	%	N	%		
Age(in years)								
20-	6	40.0	3	9.1	1	8.3	17.06	<0.002**
30-	4	26.7	18	54.5	1	8.3		
40 +	5	33.3	12	36.4	10	83.3		
Sex								
Male	13	86.7	25	75.8	8	66.7	1.52	> 0.05
Female	2	13.3	8	24.2	4	33.3		
Marital status								
Single	8	53.3	23	69.6	6	50.0	5.10	> 0.05
Married	3	20.0	5	15.2	5	41.7		
Widowed	4	26.7	5	15.2	1	8.3		
Education level								
Illiterate	5	33.3	12	36.4	3	25.0	3.14	> 0.05
Read and write	1	6.7	6	18.2	2	16.7		
Basic education	4	26.7	7	21.2	3	25.0		
Secondary	4	26.7	6	18.2	4	33.3		
University	1	6.7	2	6.0	0	0.0		
Occupation								
Unemployed	7	46.7	20	60.6	10	83.3	5.69	> 0.05
Employee	2	13.3	1	3.0	0	0.0		
Free work	6	40.0	12	36.4	2	16.7		
Residence								
Rural	13	86.7	25	75.8	11	91.7	1.82	> 0.05
Urban	2	13.3	8	24.2	1	8.3		
Position in family								
Son	8	53.3	20	60.6	4	33.3	8.34	> 0.05
Daughter	2	13.3	7	21.2	2	16.7		
Father	3	20.0	3	9.1	3	25.0		
Mother	0	0.0	1	3.0	2	16.7		
Husband	2	13.3	2	6.1	1	8.3		
Family number								
3-6	4	26.7	22	66.7	7	58.3	6.73	< 0.05*
> 6	11	73.3	11	33.3	5	41.7		

(*) Statistically significant at p< 0.05.

Table (1) shows the socio-demographic characteristics of studied patients with schizophrenia. It demonstrated that more than three quarters of the studied schizophrenic patients were males and less than two thirds of them were single (76.7% & 61.1% respectively). In accordance with their education level, one third of studied patients were illiterate and the majority of them were from rural areas (33.3% & 81.7% respectively).

Table (2) shows distribution of studied patients with schizophrenia according to their clinical data. Regarding their duration of illness, less than half of them (43.4%) have had schizophrenia for ten years or more. While the patients who were sick for a period twenty years or more were about (23.3%) and their mean duration of illness was (15.40 ± 7.26) years. In relation to their frequency of re-hospitalization, more than half of them were admitted three times and more than two thirds of them were admitted involuntary (55.0% & 68.3% respectively). As well the same table shows that the majority of them were admitted by their families and less than three quarters of them mentioned that their family doesn't suffer from any psychiatric illness (87.8% & 71.7% respectively).

Table (3) demonstrates distribution of studied patients with schizophrenia according to their total knowledge about factors affecting re-hospitalization. The results highlighted that more than three quarters (83.3%) of the studied patients with schizophrenia had poor knowledge about factors affecting re-hospitalization, while (11.7%) of them had good knowledge and only (5.0%) had average knowledge about this factors.

Table (4) indicates distribution of studied patients with schizophrenia according to their adherence to medication as a factor leading to re-hospitalization. It

represents that, the total percentage of them who are not adherent to medication were (73.3%) and the causes of that was mainly due to patients beliefs' that they don't need for medication, this cause with the highest percentage among the other causes (75.0%). However the total percentage of them who are adherent to medication were (26.7%) and the causes of that was mainly due to patients' knowledge that medications prevent feeling of disease symptoms, reduce their admission to hospital which are mentioned with equal percentage (100%). As well the same table shows that, more than half of them changing drug dose without doctor advice, stopping medication when they improved (51.7% & 68.3% respectively).

Table (5) represents distribution of studied patients with schizophrenia according to their follow up after discharge as a factor leading to re-hospitalization. Regarding receiving any instructions about follow up after discharge, more than half (60.0%) of them receive instructions. These instructions were about relapse prevention (94.0%) and were provided mainly by doctor followed by nursing staff (86.1% & 58.3% respectively). As well the same table shows that, more than three quarters (76.7%) of studied schizophrenic patients didn't follow up after discharge and the causes of that was mainly due to patients' belief that they don't need to follow up this cause with the highest percentage among the other causes (95.7%).

Table (6) represents distribution of studied patients with schizophrenia. It revealed that less than half (48.3%) of them reported that they have problems in their relationship with family. Regarding family attitude toward patients' illness, more than half of studied patients mentioned that their families locked them and not care for them followed by preventing them from everything (63.6% & 56.6% respectively).

Table (7) reflects relationship between socio-demographic characteristics of studied schizophrenic patients and their frequency of re-hospitalization. The results revealed that there is a highly statistically significant difference between patients' frequency of re-hospitalization and their age at p -value < 0.002 and there is also a statistically significant difference with family number at p -value < 0.05 .

Discussion:

The present study results revealed that there is more than one factors affecting re-hospitalization of patients with schizophrenia. This raises an alarming signal in view of the fact that a definite relation exists between patients with schizophrenia, family, hospital and community as a whole which leads to relapse and re-hospitalization. These factors include non compliance with medications, presence of relapse symptoms, medications side effects, stigma, and negligence of follow up after discharge. Also, poor relationship between patients and their family members, a negative attitude of patients' family toward their illness, negligence of patient's opinion concerning family issues and poor relationship between patients and hospital staff are very important factors that affect re-hospitalization of schizophrenic patients.

The findings of the present study revealed that, three quarters of studied sample were males, their mean age was 38.55 ± 9.78 . The highest percentages of them which representing less than half were 40+years old. These results are similar to studies done by **Karadima et al. (2010)** & **San et al., (2013)** who found that more than half of the studied group were males. This may be due to nature of schizophrenia as a disease which affect men earlier than women or may be due to male patients are usually carrying the burden of financial responsibility of the family; their illness makes them unable to

take the responsibility of their families. This may lead to development of guilt feelings which increase the stress and lead to re-hospitalization while women have a full time job in their homes as they are busy with many domestic activities

Concerning patients' marital status, the present study results showed that more than half of studied sample were single which similar to the study done by **luis et al. (2014)** who found that the highest percentages of the studied group were single. This may be due to single patients not found social networks that support them during moments of crisis and relapse which cause stress and hence re-hospitalization.

As regards education levels' result, this study revealed that one third of the studied sample was illiterate. This result comes in agreement with **Suzuki et al. (2010)** who found that a half of the studied group were illiterate. This may be justified by illiteracy which makes patients don't have interest to know, learn and retain information about the nature of their disease and relapse prevention which causes formation of a negative attitude about disease and its treatment.

Regarding patients' occupation, the present study findings reported that more than half of the studied sample was unemployed. These results were similar to study of **Mathers et al. (2010)** & **Viertio et al. (2011)** who mentioned that more than half of the studied sample was unemployed. However, these results are inconsistent with **Schenaacch et al. (2012)** who found that more than half of the studied sample was employed. This probably due to schizophrenia that has been described as the most severe psychotic disorders, with a significant effect on the person's everyday life and functional capacity, or it may be due to unemployment which makes patients dependant on their families, decreases their

self esteem and makes them feel they have no purpose in the life which results in stress and re-hospitalization.

Concerning patients' residence, the current study result revealed that more than three quarters of the studied sample were from rural areas. These findings are contradicting with **Boden et al. (2011)** who mentioned that the majority of the studied group was from urban areas. This may be due to the fact that the psychiatric hospital at Benha serving mainly rural and semi urban areas. Added to that stigma of mental illness which are more common in rural areas because of prevalence of illiteracy which causes families admitted their patients to hospital to get rid of their responsibilities or it may be due to the fact that rural areas had low socio economic strata that characterized by low social support and financial resources which in turn might have resulted in them not being able to access medical aid at the same rate, as those with higher incomes.

As for patients' with schizophrenia duration of illness and frequency of re-hospitalization, the results of present study demonstrated that less than half of the studied sample was ill for 10 years and more while more than half of them were readmitted three times to hospital. This result goes parallel with **Bernardo et al. (2013)** who reported that more than half of the studied group was ill for 10 +years and readmitted three times to hospital. These probably due to nature of schizophrenia which was characterized by frequent relapse and re-hospitalization or may be due to patients became more dependent on hospital and not able to adapt to family and community outside hospital.

Regarding schizophrenic patients' total knowledge about factors affecting re-hospitalization. The findings of present study highlighted that more than three quarters of the studied group have poor knowledge about these factors. These

results go parallel with **Thavichachat et al. (2007)** who reported that schizophrenic patients have poor knowledge about schizophrenia as a disease. This can be justified by lack of information about nature of disease, importance of regular follow up, compliance with medication and other factors leading to frequent re-hospitalization which is considered a fertile soil for developing a negative attitude toward their illness. This emphasis the important role of medical staff to increase awareness of patients and their families about everything concerning their disease by psycho education before discharge and frequent home visits after discharge.

Compliance with medication among patients with schizophrenia is a real problem because the illness has considerable potential to impair judgment, insight, and stability. In this study nearly three quarters of the studied group are not adherent to medication. This result comes in agreement with the study of (**Cardoso & Galera , 2009; Draman et al., 2009 and Nicolino et al., 2011**) who found that fifty to sixty percent of studied patients are non compliant to their medication and it was considered an important factors in anticipating repeated admission among schizophrenic patients. However, these results are contradicting with **Perez et al.(2010)** who stated that nearly three quarters of the studied group were adherent to medication. These probably due to schizophrenic patients don't disclose their medication taking behavior or equally health professionals might be unaware of their patients' medication taking practices.

Regarding schizophrenic patients' follow up after discharge. The findings of the current study demonstrated that more than three quarters of the studied sample didn't follow up after discharge. This finding goes parallel with **Sabra (2008)** who found that, about two thirds of schizophrenic patients didn't visit outpatient after discharge. This may be due

to the absence of schizophrenic patients' insight about the importance of follow up as well as the absence of family support who motivated them to follow up and attended their out patients appointment regularly.

Family atmosphere has an important role in prevention of relapse and re-hospitalization. However, the results of the present study indicated that more than half of the studied sample stated that their families show harsh attitude toward their illness (they locked them and prevented them from everything) and they had more problems in their relationship with them. these findings goes in the same line with studies done by **Ismail et al. (2009) & San et al. (2013)**, who reported that low family support and a bad relationship between patients and their families were important factors in anticipating repeated admission among patients with schizophrenia. This may be justified by stigma of psychiatric illness that makes patients' families prevent them from any contact with other people either at home or at the community as a whole and deal them sharply. These harsh attitudes of their families and problematic relationship will give the patient a feeling of being rejected and that he has no value at all, this will lead to deterioration of his condition and hence re-hospitalization. Added to that, lack of knowledge provided to patients' families about nature of disease and how to deal with their schizophrenic patients.

Regarding relationships between socio- demographic characteristics of schizophrenic patients and their frequency of re- hospitalization. The findings of the current study demonstrated that there is a highly statistically significant relationship between patients' frequency of re-hospitalization and their age which congruent with **Feigon et al. (2005)** who stated that there is no statistically significant difference between patients' frequency of re-hospitalization and their

age, this may be due to patients who were sick for a long period admitted to hospital more because of nature of schizophrenia that characterized by frequent relapse that require re-hospitalization or may be due to patients' dependency on hospital and not able to adapt to community outside.

In addition, the results of the present study highlighted that there is a statistically significant difference between patients' frequency of re-hospitalization and their family number as patients whose family number composed of more than six persons admitted to hospital were less than patients whose family number composed of less than three persons. These probably due to large families who provided more emotional and psychological support to their patients during the course of illness.

CONCLUSION

There are many factors can affect re-hospitalization of schizophrenic patients. Examples of these factors are non compliance with medications, presence of relapse symptoms, medication side effects, stigma, and negligence of follow up after discharge. Also, poor relationship between patients and their family members, a negative attitude of patients' family toward their illness and negligence of patient's opinion concerning family issues are very important factors that affect re-hospitalization of schizophrenic patients. Furthermore, hospital environment can also affect re-hospitalization of schizophrenic patients as many patients didn't feel comfortable at the hospital and had a negative relationship with the hospital staff.

RECOMMENDATIONS

- Involve the patients as much as possible in their treatment plans.

- Discharged patients should be followed up on an ongoing basis throughout- patients' appointments, home visits or telephone calls to reduce patients' re-admission again.
- Family education about the patient's disease and medications should be provided to enable them to deal with their patients effectively.
- The hospital environment must be changed from a place providing custodial care only to a place providing therapeutic community services.
- In-service training programs and workshops that are necessary for communicating effectively with patients need to be implemented for all hospital staff
- Mass media should offer programs to the general population about mental illness and the facilities available for treatment, and the role of the community in caring for psychiatric patients.

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