Assessment of Associated Factors with Risk of Relapse in Schizophrenic Patients at Psychiatric Hospitals in Baghdad City

Hasan A. Hussein, MSc*
Shirooq M. Jacob, PhD**

الخلاصـــة:

إنّ مرضى الفصام المعرضين للانتكاسة يتصفون بعدم مطاوعتهم للعلاج و نكرانهم للمرض وحاجتهم للعلاج وليسوا على اتصال مع أسرهم، لذلك، فإنّ منع حدوث الانتكاسة وتكرار الدخول للمستشفى هو من الأمور المهمة من ممارسات الصحة النفسية والعقلية.

الدراسة الحالية هي دراسة وصفية ـتحليلية أجريت للفترة من الثاني من تشرين الثاني عام 2006 ولغاية العشرين من نيسان عام 2008.

الهـدف: تقييم العوامل المتعلقة بخطورة الانتكاسة عند مرضى الفصام في المستشفيات النفسية في مدينة بغداد.

المنهجيـة:اختيرت العينة بالطريقة العمدية (غير الاحتمالية) من (50) مريض من مرضى الفصام واللذين لديهم انتكاسة. جمعت العينة من خلال استخدام الاستبانة ومن خلال المقابلة الشخصية كطريقة لجمع المعلومات.

صممت الاستبانة من قبل الباحث لغرض تحقيق أهداف الدراسة والمتكونة من جزئين، الأول يتعلق بالخصائص الشخصية والسريرية، والثاني يحتـوي على عوامل خطورة الانتكاسة ويحتوي على (68) فقرة والتي تصف العوامل المتعلقة بالإسناد الأسري،والعوامل المتعلقة بالأذى أو المعانـاة الأسـرية والعوامل المتعلقة بعدم المطاوعة للعلاج والعوامل المتعلقة بالأحداث الحياتية الجديدة.

ثمّ تحليل البيانات عن طريق تطبيق التحليل الإحصائي الوصفي (التكرارات، النسب المئوية، الوسط الحسابي و متوسط القيم والغاية النـسبية)، وكـذلك التحليل الإحصائي ألاستنتاجي.

النتائـج: أشارت نتائج البحث إلى أن كل من الإسناد الأسري للمريض والأذى العائلي كانا بمستوى عالٍ، والاستمرار على العلاج كان بمستوى متوسـطٍ وأكثر من نصف عدد المرضى لديهم (30%) من الفرصة للانتكاسة نتيجة تعرضهم إلى الأحداث الحياتية الجديدة، أشارت النتائج أيضا إلى عدم وجـود ارتباط معنوي بين الخصائص الديموغرافية والسريرية للمرضى وعوامل خطورة الانتكاسة فقط. وكان هناك ارتباط معنوي بـين العوامـل المتعلقـة بالأسرة وعدد مرات الانتكاسة.

التوصـيات: أوصى الباحث بتثقيف المرضى وعائلاتهم حول أهمية الالتزام بالعلاج لمنع الانتكاسة.

Abstract:

Schizophrenic patients who are at great risk of relapse are characterized by non-compliance, denial of illness and need for treatment and no contact with family. So, the prevention of relapse and readmission to hospital are crucial in mental health practice.

The present study is a descriptive–analytical study that was carried out from November 2nd 2006 through the end of 20th of April 2008.

Objectives: To assess the associated factors with the risk of relapse in schizophrenic patients at psychiatric hospitals in Baghdad city.

Methodology: A purposive "non-probability" sample of (50) schizophrenic patient who hasd relapsed was involved in the present study. Data were collected through the use of the constructed questionnaire and the process of the interview as means for data collection.

The questionnaire was constructed by the researcher to achieve the objectives of the study, which consisted of two parts; the first one is concerned with the demographic and clinical characteristics; the second part includes the risk factors of relapse and contains (68) item that describe the factors related to the family support, factors related to the family hardship and factor related to the treatment compliance.

Data were analyzed through the application of descriptive statistical analysis (frequency, percentage, mean and mean of scores and the relative sufficiency and inferential statistic (Multiple Logistic Regression).

Results: The findings of the study indicated that there was a high family support for schizophrenic patients, high family hardship, moderate level of non-compliance to the treatment and more than half of the patients had (30%) chance of relapse related to the recent exposure to recent life events.

Key words: schizophrenia, relapses, compliance, family support.

* Assistant Instructor, University of Baghdad, College of Nursing
**Assistant Professor, Head of the Psych-mental Health Nursing Department, University of Baghdad, College of Nursing

There was no significant relationship between the socio-demographical and clinical characteristics of the sample and the risk factor of relapse. Only, there was a significant relationship between factors related to the family and the number of relapses.

Recommendations: The researcher recommends that patients and families should be educated about the importance of the treatment adherence to prevent relapse.

Introduction

Schizophrenia is a major mental illness that causes prominent psychological dysfunction, and it is among the top ten causes of a long–term disability in the world; and it affects about 1% of the population world wide [(1)].

Even though people with the various symptoms and domains of impairment associated with schizophrenia are responsive to a range of pharmacological and psychosocial treatment, a partial or complete non-adherence to treatment commonly interferes with the optimal recovery [(2)]. Relapse is a reappearance of symptoms and it is a relative term in the course of schizophrenia.

Indeed, the lack of adherence to medications for schizophrenic patients after the discharge from an acute hospitalization has been described as the single most significant risk factor for relapse, and this demonstrates the need for special attention and evidence-based intervention designed to enhance adherence [(3)].

Non-adherence among the patients receiving psychiatric services leads to an increased rate and length of rehospitlazation, as well as an increased cost. Although the prevalence of partial or complete non-adherence is known to be extremely high in schizophrenia, it is likely that both patients and their clinicians overestimate the adherence to treatment regimens [(4)].

Fifty percent of schizophrenic patients under normal treatment conditions relapse within1 year after their latest episode, frequently spending 15-20% of their time in psychiatric institutions[(5)].

Reduction in the rate of relapse is a tremendous benefit to the patient, but it's also a benefit to the family and the system of care that has to pay for the hospitalization that often goes along with relapse, it lasts from 7-21 days, but even after discharge it may take weeks [(6)].

There is a high rate of relapse within 5 years of recovery from a first episode of schizophrenia; this risk is diminished by antipsychotic, also early intervention at the first sign of prodromal symptoms can prevent full relapse in people with schizophrenia[(7)].

There is no study that deals with the risk factors of relapse, especially in Iraq, so these issues highlight the need for such a study to help those patients to detect the causes of relapse and to minimize the prevalence of these causes.

Methodology

A descriptive-analytic study was carried out in order to achieve the objectives of the study by using the assessment technique on hospitalized schizophrenic patients in the period November 2nd 2006 through the end 20th of April 2008. The study was carried out to assess the associated factors with risk of relapse in schizophrenic patients, which are (factors related to family, factors related to treatment non-compliance, and life events).

A purposive (Non-probability) sample of (50) relatives of schizophrenic inpatients selected from Ibn-Rushd Psychiatric Hospital and psychiatric unite at Baghdad teaching hospital. The patients were selected according to the following inclusion criteria:

1- Both sexes (male and female) age from 18 and above.2- Patients who are diagnosed with schizophrenia according to DSM IV by specialized psychiatrist. 3- Patients who have at least one episode relapse, and have been admitted to the hospital.

The questionnaire of the study consists of factors related to the risk of relapse in schizophrenic patients which included 2 domains and consist of 51 items: 1- Factors related to the family which includes Two sub-domains: a- Factors related to the family support. b- Factors related to the family hardships which consist of 16 items.

2- Factors related to the treatment compliance which included three sub-domains:
a- Factors related to the patient which consist of 7 items. b- Factors related to treatments which consist of 7 items. C-Factors related to the patient's environments which consist of 8 items.
These items were rated according to three Likert rating scale (never 1,sometimes 2 and always 3) the severity of the risk factors are measured by relative sufficiency distributed as follows:
Scores (Never= 1, Sometimes=2, Always=3).
Non severity: (RS< 33.33%)
Mild : (RS 33.34- 49.99%)
Moderate : (RS 50 – 66.66%)
Severe : (RS 66.67 – 100%)

Pilot Study: A purposive sample of (10) patients and their relatives from both genders was selected from Ibn-Rushd Psychiatric Hospital and Baghdad Teaching Hospital.
The internal consistency of reliability was determined through the use of test and retest. The Pearson correlation for the scale (was r=0.80).Appropriate statistical measures were employed such as (frequency, percentage, mean of scores, relative sufficiency and multiple logistic regression).

Results:

Table 1. Demographic Characteristics of the sample of 50 participants.

List.	Demographic characteristics		f	%
1-	Gender	Male	30	60.0
		Female	20	40.0
2-	Age	> 20 years	2	4.0
		20 – 29	18	36.0
		30 - 39	12	24.0
		40 - 49	10	20.0
		50 – 59	5	10.0
		60 - 69	3	6.0
3-	Marital Status	Un married	25	50.0
		Married	19	38.0
		Divorced	4	8
		Widow/Widowed	2	4
4-	Level of Education	Illiterate	6	12.0
		Read and Write	6	12.0
		Primary School	8	16.0
		Intermediate School	10	20.0
		Secondary School	11	22.0
		Diploma	8	16.0
		Bachelor	1	2.0
5-	Occupation	Employed	8	16.0
		Free Business	14	28.0
		Student	6	12.0
		Retired	1	2.0
		Unemployment loser	9	18.0
		House Wife	12	24.0
6-	Monthly Income	sufficient	10	20.0
		some how sufficient	31	62.0
		insufficient	9	18.0

f= frequency, %= percentage

Table (1) shows that more than half of the patients was male (n=30; 60%), one third of them was of (18-27 year) age group (n=18; 36%), half of the patients was unmarried (n=25; 50%), about one fifth of them was having secondary level of education (n=11; 22%). This table also shows that more than one fourth of them has free business (n=14; 28%), more than the half of them was of fair monthly income and some was of sufficient monthly incomes (n=31; 62%).

Table 2. Clinical characteristics of the sample of (50) participant

List.	Clinical characteristics		f	%
1-	Age at Onset	18-27	32	64.0
		28-37	12	24.0
		38-47	3	6.0
		48-57	2	4.0
		58 or Above	1	2.0
2-	Duration of illness	≤ 1 year	5	10%
		1-3 year	15	30%
		4-6 year	20	40%
		7-9 year	7	14%
		10 and above	3	6%
3-	Number of relapse	1-2	17	34.0
		3-4	12	24.0
		5-6	15	30.0
		≥6	6	12.0
4-	Person Responsible for the patient	Father-Mother	30	60.0
		Spouse	6	12.0
		Son-Daughter	4	8.0
		Brother-Sister	9	18.0
		Relatives	1	2.0

f= frequency
%= Percentage

Table (2) shows that most of the patients were diagnosed at age group from (18-27) (64%).Regard to the duration of illness they were between (4-6) years (40%), while the number of relapses was 1 to 2 times (34%) and (30%) of them were relapsed 5-6 times.
This table also shows that more than half of the patients had their father/mother responsible for their care (60%).

Table 3. Factors related to family support

List	Response / Family support items	Always		Sometimes		Never		Wt.	MS	R.S	Grade
		f	%	f	%	f	%				
1	Pay attention to create a rhythm in life	10	20	20	40	20	40	70	1.4	46.66%	mild
2	Pay attention to sanitation and appearance	34	68	8	16	8	16	126	2.52	84%	severe
3	pay attention to whether the patient regularly visits the hospital and encourage him/her to do so	19	38	11	22	20	40	99	1.98	66%	moderate
4	pay attention to whether the patient regularly takes drugs and encourage him/her to do so	20	40	13	26	17	34	103	2.06	68.66%	severe
5	Keep close contact with the hospital	20	40	13	26	17	34	103	2.06	68.66%	severe
6	Pay attention to changes in the patient's condition	24	48	13	26	13	26	111	2.22	74%	severe
7	Advise the patient to find a job appropriate for him/her	19	38	11	22	20	40	99	1.98	66%	moderate
8	Pay attention so that the patient can keep the job without excessive difficulties	16	32	16	32	18	36	98	1.96	65%	moderate
9	Advise the patient to find opportunities to participate in social event and friends	19	38	16	32	15	30	104	2.08	69.33%	severe
10	Study to increase knowledge of the disease	27	54	11	22	12	24	115	2.3	67.66%	severe
11	Listen to the patient as much as possible	29	58	12	24	9	18	120	2.4	80%	severe
12	Talk to the patient when he/she is in trouble	21	42	13	26	16	32	105	2.1	70%	severe
13	Advise the patient to have hobbies and interest	20	40	9	18	21	42	99	1.98	66%	moderate
	Total									69%	severe

Cut off point for mean of scores: 2, f: Frequency, M.S: Mean of scores, Range of Relative sufficient :(Low=33.34%-49. 99%; Moderate=50%–66,66%; High=66. 67%-100%), R.S: Relative sufficiency, Wt.: Weight

Table (3) shows that the majority of family members pays attention to the patient's appearance (n=34; RS= 84%), followed by the item "listen to the patient as much as possible" (n=29; RS=80%). This factor which was related to the family support was at the high level of support (RS: 69%).

Table 4. Factors related to family Hardship

List	Response / Family Hardship Items	Always		Sometimes		Never		Wt.	MS	RS	Grade
		f	%	f	%	f	%				
1	Suffer from financial burdens due to the patient.	17	34	14	28	19	38	**98**	**1.96**	**65.33**	**moderate**
2	Find difficulty in continuing patient's care	25	50	13	26	12	24	**113**	**2.26**	**75.33**	**severe**
3	Find difficulty in performing domestic tasks due to patient's care	16	32	15	30	19	38	**97**	**1.94**	**64.66**	**moderate**
4	Do not find pleasure in home due to patient's condition	8	16	26	52	16	32	**92**	**1.84**	**61.33**	**moderate**
5	Feel unable to let the patient alone in home	19	38	11	22	20	40	**99**	**1.98**	**66**	**severe**
6	Feeling embarrassed in mixing with neighbors due to patient's condition	15	30	25	50	10	20	**105**	**2.1**	**70**	**severe**
7	Be away from relatives due to patient's condition	9	18	14	28	27	54	**82**	**1.64**	**54.66**	**moderate**
8	Find difficulty in assign a time for self-preoccupation due to patient's condition	11	22	22	44	17	34	**94**	**1.88**	**62.66**	**moderate**
9	Experiencing physical sufferings due to your caring for the patient	21	42	20	40	9	18	**112**	**2.24**	**74.66**	**severe**
10	Experiencing psychological sufferings due to your caring for the patient	24	48	14	28	12	24	**112**	**2.24**	**74.66**	**severe**
11	Find difficulty in thinking with matters related to your family (such as family member marriage)	22	44	10	20	18	36	**104**	**2.08**	**69.33**	**severe**
12	Feel unable to plan for family future	16	32	18	36	16	32	**100**	**2**	**66.66**	**severe**
13	Facing difficulties in keeping the patient take medications	23	46	17	34	10	20	**113**	**2.26**	**75.33**	**severe**
14	The Patient Violates other family members and make them problems	17	34	19	38	14	28	**103**	**2.26**	**68.33**	**severe**
15	The patient violates others and make them problems that reflected on the family's relation with other	10	20	13	26	27	54	**83**	**1.66**	**55.33**	**severe**
16	Think a lot with the probability of occurrence of sudden changes for the patient's health condition and his/her relapse	19	38	23	46	8	16	**111**	**2.22**	**74**	**severe**
	Total									**68%**	**severe**

Cut off point for mean of scores: 2, f: Frequency, M.S: Mean of scores, Range of Relative sufficient :(Low=33.34%-49. 99%;

Moderate=50%— 66,66%; High=66.67%-100%), R.S: Relative sufficiency, Wt.: Weight

Table (4) shows that the factor related to the family hardship was also at a severe level of suffering (RS:68%) and items No. 2 and 13 "find difficulty in continuing patient's care and facing difficulties in keeping the patient take medications" was highest level (RS: 75.33%).

Table 5. Factors related to treatment Compliance

List	Factors related to the patient	Always		Sometimes		Never		Wt.	MS	RS	Grade
		f	%	f	%	f	%				
1	Disease nature have a strong effect that makes the patient unable to take medications	10	20	20	40	20	40	**90**	**1.8**	**60%**	**moderate**
2	The patient think that his/her disease does not require treatment (not dangerous)	19	38	15	30	16	32	**103**	**2.06**	**68.66%**	**severe**
3	The patient think that the treatment has a negative effect	14	28	19	38	17	34	**97**	**1.94**	**64.66%**	**moderate**
4	Think that the patient do not realize the necessity of taking medications (poor insight)	8	16	21	42	21	42	**87**	**1.74**	**58%**	**moderate**
5	The information provided for the patient are little	11	22	15	30	24	48	**87**	**1.74**	**58%**	**moderate**
6	The continuity of taking medications by the patient could affect his/her life nature	12	24	16	32	22	44	**90**	**1.8**	**60%**	**moderate**
7	Think that patient do not take medications regularly	15	30	12	24	23	46	**92**	**1.84**	**61.33%**	**moderate**
	Total									**61.66%**	**moderate**
	Factors related to treatment										
8	Existence of medication side effects the treatment continuation (such as increased weight	4	8	18	36	28	56	**76**	**1.52**	**50.66%**	**moderate**
9	Increasing the prescription complexity (increase number of daily doses) effects the treatment continuation	9	18	16	32	25	50	**84**	**1.68**	**56%**	**moderate**
10	The patient thinks that the method of taking medication is not suitable	14	28	10	20	26	52	**88**	**1.76**	**58.66%**	**moderate**
11	The patient thinks that the length of treatment duration effects on the continuation of treatment taking	11	22	19	38	20	40	**91**	**1.82**	**60%**	**moderate**
12	The patient thinks that the increment of medications have a negative effects on the treatment continuation	8	16	22	44	20	40	**88**	**1.76**	**58.66%**	**moderate**

Table 5. (continued)

List	Factors related to the patient	Always		Sometimes		Never		Wt.	MS	RS	Grade
		f	%	f	%	f	%				
13	The patient thinks that the treatment is not useful	14	28	15	30	21	42	75	1.5	50%	moderate
14	Think that the medication cost is high	21	42	10	20	19	38	107	2.04	68%	severe
	Total									57%	moderate
	Factors related to the environment	**Always**		**Sometimes**		**Never**		**Wt.**	**MS**	**RS**	**Grade**
		f	%	f	%	f	%				
15	There is difficulty in presenting assistance in taking medication	10	20	15	30	25	50	85	1.7	56.66%	moderate
16	There is a believe of community negative concept concerning the mental illness	29	58	11	22	10	20	119	2.38	79.33%	severe
17	There is suffering of unavailability of financial support to get medications	15	30	16	32	19	38	96	1.92	64%	moderate
18	Altering medical staff treating patient has a negative effect on the continuity of taking medications	9	18	22	44	19	38	90	1.8	60%	moderate
19	Find difficulties in accessing the location of medication receiving	7	14	13	26	30	60	77	1.54	51.33%	moderate
20	Think that the physician face difficulty in following the patient's taking to medications	9	18	13	26	28	56	51	1.62	54%	moderate
21	There is no confirmed schedule for date of receiving medications	16	32	7	14	27	54	89	1.78	59.33%	moderate
22	Think that the patient do not follow therapeutic instructions	19	38	14	28	17	34	102	2.04	68%	Severe
	Total									61.66%	moderate

Cut off point for mean of scores: 2, f: Frequency, M.S: Mean of scores, Range of Relative sufficient :(Low=33.34%-49. 99%; Moderate=50%–66,66%; High=66. 67%-100%), R.S: Relative sufficiency, Wt.: Weight

Table (5) represents the factors related to the patient's non-compliance which was present because the participants think that the disease does not require treatment (no threatening) (n=19; RS: 68.66%) and this domain which was related to the patient's non-compliance was at a moderate level (RS: 61.66%). Concerning the factors related to medications, more than half of participants think that the medication cost is high (n= 21; RS:68%), and this domain which is related to the treatment was also at a moderate level (RS:57.%). Concerning the factors related to community and surrounding, the majority of participants see that "there is a negative community image concerning the mental illness" (n=29; RS: 79.33%), and this domain reached the moderate level (RS: 61.66%). The entire domain related to the factors of non-compliance was at a moderate level (RS: 60.15 %).

Table 6. Multiple logistic regression for the relationship between factors related to family and treatment compliance and the demographic and clinical characteristics of the sample

**Variables	Factors Related to Family				* Factors related to treatment compliance			
	Beta In	t	P-value	C.S	Beta In	t	P-value	C.S
Gender	-.214	-1.382	.175	NS	-.194	-1.127	.267	NS
Age	-.354	-1.703	.097	NS	.026	.111	.912	NS
Age on Diagnosis	.286	1.464	.152	NS	-.236	-1.091	.283	NS
Social Status	.029	.169	.867	NS	-.011	-.057	.955	NS
Level of Education	.147	.816	.420	NS	-.061	-.304	.763	NS
Occupation	-.068	-.415	.680	NS	-.037	-.204	.840	NS
Monthly Income	.165	1.068	.293	NS	-.263	-1.543	.131	NS
Housing Status	.192	.1.326	.193	NS	.305	1.900	.065	NS
Family Type	-.216	-1.460	.153	NS	-.100	-.613	.544	NS
Person Responsible for the patient	-.081	-.524	.603	NS	.032	-.189	.851	NS
Number of Relapse	.383	2.706	.010	Sig.	.132	.845	.403	NS
Type of admission	.010	.058	.954	NS	.172	.935	.356	NS

Beta: Regression Coefficient, *Dependent variable, ** Independent variable, P: Probability Level , t: Observed t-test Value NS= Non-significant, S = Significant

Table (7) shows that there was no significant relationship between the risk factor related to the family and all the variables except for a significant relationship with the number of relapses at P= 0.01; P< (0.05), and the table shows that there was no significant correlation between the demographic and clinical characteristics of the patients and the factors related to the non-compliance.

Discussion:

The results of the study indicate that two-third of patients (60%) were males while (40%) were females .This result is supported by Angermeyer et al., (1989) who demonstrated that schizophrenic women experience fewer rehospitalizations and shorter lengths of stay, and survive longer in the community than schizophrenic men, table (1)[8].

The result of the study also indicates that the ages of the sample (36%) of the patients ranged between (18-27); this result may be explained by the nature of the schizophrenic disorder which begins in early adulthood and relapse leading to psychological and social disability, (table1).

This result is also congruent with Brooker et al, (1992), who stated that schizophrenia affects (100 %) at some stage in life. The onset of schizophrenia is usually occurring in the twenties or thirties years of old. Unless the initial illness is brief, incomplete recovery and further relapses are the most likely outcome [9].

The result revealed that half of the sample were unmarried (50%) while (38%) of them were married, table(1).this result consistent with Marvin et al., (2000) revealed in their study that (33%) of the patients were married and (40%) were unmarried; (21%) were divorced or separated and (6%) were widowed [10].

The study indicates that (22%) of the sample were at the secondary school, (16%) of them were at level of primary school and the Bachelor level, (table1).

Robinson et al., (1999) reported that low level education in childhood and adolescence is associated with relapse of schizophrenia [11].

This study reveals that (28%) of the sample has free work, and (24%) of them were housewives, (table1).Chabungbam et al., (2007) found that a longer period of unemployment was reported to be a reliable predictor of re-hospitalization rate, and significantly more relapsed patients had become unemployed due to their mental illness. The study indicates that two-third of the sample (62%) have a moderate level of monthly income, (table1).These result approved by Chabungbam et al., (2007) who found that the monthly income in the majority of (70%) was insufficient[12].

The result shows that two-third of the patients (64%) were at ages that ranged between (18-27) when diagnosed with schizophrenia,(table2).This result congruent with Csernansky and Schuchart, (2002) they stated that schizophrenia often appears earlier in men than in women, and the patients are generally affected in the twenties to early thirties years of old [13].

Haro et al., (1994) also reported that both of age on onset and time to the first rehospitaliztion were strong early predictors of chronic in schizophrenia [14].

The result also reveals that the highest percentage (40%) of duration of illness was (4-6 years),(table2).This result agrees with Uehara et al., (1997) who reported that the average of illness duration in their study were (5) years. While Chabungbam et al., (2007) found that the period of 10 years were the mean duration of the illness in their study [15, 14].

The highest percentage (34 %) of number of relapses was 1-2 years, And the two-third of patient's care-givers (60%) were father and mother, (table 2).

Ucok et al., (2006) found in their study that one-third of schizophrenic patients (33%) had a relapse and (12.0%) were relapsed during a one year follow-up, and Uehara et al., (1997) found that the parents (87%) were the key relatives in caring for the schizophrenic patients [16,15].

The result also shows that the family support for their schizophrenic patients were at a high level (RS: 69); and item No.2 (pay attention to patient's grooming) was the highest score, (Table 3).

Mari and Strainer, (1996) stated that family interventions were effective in reducing relapse in the first year after discharge, while these interventions seemed to be less effective in the second year.

Anderson, (1996) emphasized that it is important to delivering clinical services and care to the clients with schizophrenia in a home setting, because they have a great difficulty in successfully

meeting daily responsibilities and maintaining independence in a healthy home environment [17,18].

The family hardship as a result of their schizophrenic patients was at a high level factor related to the risk of relapse (RS: 68%); and items(No.2 and No 13) "find difficulty in continuing patient's care" and "facing difficulties in keeping the patient on taking medication" were the highest items (RS:75%)table(4). Martens and Addington,(2001) reported that family members are discernibly distressed as a result of having a family member with schizophrenia; therefore, requiring an increased family support in the early stages of the illness [19].

Factors related to non-compliance to treatment was at moderate level (RS: 60.15%). and the factors related to the patient, the medication, and environment were all at moderate levels (RS: 61.66%, 57 %, 61.66%), (table 5).

Knapp,(2005) reported that the Non-adherence to medication regimen is believed to increase the probability of relapse and thereby to contribute significantly to costs, it may be four times higher than costs for patients who do not relapse. Stopping antipsychotic treatment can interrupt improvement and exacerbate the illness [20].The result is consistent with Thieda et al., (2003), who examined in their study the economic evaluations of schizophrenia and they found a definitive relationship between compliance and the economic costs of schizophrenia. Lower rates of compliance lead to higher costs of treating the illness. At least half of the relapses can be associated with a lack of compliance with drug therapy [7].

The result also indicates that there were no-significant relationship between the factors related to the family with all the variables except for the number of relapse which was a significant correlation, (table 6).This is supported by Uehara et al., (1997) who found that there were no significant differences in the demographic characteristics of the patients and the risk factors of relapse like non-compliance of drugs [15].

Lader, (1995) stated that relapses in schizophrenia predict poor prognosis, bring about deterioration in social, occupational and financial status and increase the burden of care on the family [21].

Recommendations

According to the findings of the present study, the investigator recommended the following:

1-The programme of relapse prevention should be adapted to existed services in community mental health programmes to reduce emotional and economic costs of relapse and readmission to hospital.

2. Teach the patients and their family about the recognition of early signs of relapse and to take the effective treatment.

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