Impact of Life Events on the Relapse of Schizophrenic Patients

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Abstract
Objectives: To investigate the relationship between of stressful life events at the time of relapse in schizophrenic patients at psychiatric hospitals in Baghdad city.Methodology: A purposive (non-probability) sampling of 50 schizophrenic patients who have 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 consists of the Factors related to the patients exposure to the recent life events which include (17) items. 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 more than half of the patients had 30% chance of relapse related to the recent exposure to recent life events, and there was a significant relationship between the factors related to recent life events and the person responsible for the patients.Recommendations: The researcher recommends that patients and families should be educated about the particular and society about, accepting mentally ill as a member in the society, and dealing with stress and basic home care
Keywords: Schizophrenia, Relapses, Life events

1. Introduction

We all deal with many stressful events in our lives; birth, death, divorce, moving house etc … (Malla et al., 1990). Stressful life events such as the loss of a parent or spouse, financial hardship, illness, perceived or real failure and midlife crises are all examples of environmental factors contributing to the development of a mental disorder. Certain populations of people including the poor, single persons, or working mothers with young children seem to be more susceptible than others to mental disorders. The life event most often associated with the development of a mental disorder is the loss of a parent before the age of 11 years. And the stressor most often associated with an episode of schizophrenic disorder is the loss of a spouse. Aspects of psychotic behaviours appear to be somewhat vulnerable to the impact of life events, particularly those events that are undesirable (Schwartz et al., 1994).

Also there is an evidence that psychotic experiences can sometimes follow major events in someone's life, either negative (for example bereavement) or positive (for example winning the lottery). People who have mental health problems but live in a calm and relaxed home atmosphere, their problems are less likely to return (Lader, 1995). Some theorists believe that the stress experienced by a client results in a long-lasting change in the brain's biology affecting the functional states of neurotransmitters and intra-neuronal signaling systems (Sadock and Sadock, 2003).

Research strongly supports the notion that stressful life events may trigger the exacerbation of psychotic symptoms of schizophrenia (Horan et al., 2005). In Iraq, large number of people experienced displacement which is one of the most stressful life events that might individuals susceptible to get psychotic symptoms and which lead to drop the follow-up treatment in schizophrenic patient. Thus, the aims of the current study were to:
1. To investigate the relationship between of stressful life events at the time of relapse in patients with schizophrenia.
2. Detect the psychological stress factors which may contribute to mental illness.
3. Teach the patients and their family how to deal with stress

2. Materials and Methods

2.1 Design of the Study: 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 2/9/2007-30/12/2007. The study was carried out to assess the life events associated with risk of relapse in schizophrenic patients.

2.2 Setting of the Study: The study was conducted on in- patients who were diagnosed with schizophrenia and

had at least one episode of relapse. They were selected from Ibn-Rushd Psychiatric Hospital which contain (74) beds for male and female and the psychiatric unite at Baghdad Teaching Hospital which consist (18) beds also for male and female.

2.3 Sample of the Study: 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 criteria:
1- Both sexes (male and female) age from 18 to above 58.
2- Patients who are diagnosed with schizophrenia according to DSM IV.
3- Patients who have at least one relapse episode, and have been admitted to the hospital.

2.4 Instrument construction: The questionnaire was constructed by the investigator for the present study through the use of Holmes-Rahe Social Readjustment Scale which consists two parts as following:
Part I: This part includes the demographic characteristics of the sample, which include age, gender, level of education, marital status, occupation, and monthly income, and the clinical characteristics which include age at onset, duration of illness and number of relapse and a person responsible for the patient.
Part II: Factors related to the patients exposure to the recent life events which include (17) items. This was adopted from the Holmes-Rahe Social Readjustment Scale and developed into (17) item that were applicable to our culture. These items were scored and rated according to Holmes-Rahe Social readjustment Scoring, and the patient's responses for these events were by Exposed and non-exposed.

2.5 Validity of the questionnaire: The face validity of the constructed instrument is determined through a panel of (12) experts to investigate the content of the questionnaire for clarity and adequacy in order to achieve the objectives of the present study.

2.6 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. A Pilot study was conducted from (1st July to 15th July, 2007), furthermore; the study attempted to Determine the reliability of the instrument and Estimate the average time required for the data collection of each patient.

2.7 Data collection: The data were collected for the present study through the utilization of the study instruments and the use of structured interview as a mean of data collection.
        Each patient was interviewed individually by the researcher after being asked if he/she was willing to answer questions, also the interview was conducted with available family members to gather the data from family; all of them were cooperative with the interviewer. Interviews were conducted by the use of the questionnaire and takes approximately (10-20) minutes.

3. Results
The results showed that more than half of the patients were males (n=30,60%) , one third of them were at age group (18-27 year) , (n=18;36%) half of the patients were unmarried (n=25;50%) , about one fifth of them were at the secondary level of education(n=11;22%).This table also shows that more than one fourth of them have free business(n=14;28%) , more than the half of them were of fair monthly income and some were of sufficient monthly incomes (n=31;62%).

Table1. Demographic Characteristics of the sample.

List.	Demographic characteristics		f	%
1-	Gender	Male	30	60.0
		Female	20	40.0
	Total		50	100%
2-	Age	18-27	18	36.0
		28-37	13	26.0
		38-47	11	22.0
		48-57	5	10.0
		58 or Above	3	6.0
	Total		50	100%
3-	Marital Status	Un married	25	50.0
		Married	19	38.0
		Divorced	4	8
		Widow/Widowed	2	4
	Total		50	100%
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
	Total		50	100%
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
	Total		50	100%
6-	Monthly Income	sufficient	10	20.0
		some how sufficient	31	62.0
		insufficient	9	18.0
	Total		50	100%

Furthermore, the results showed that the most of the patients were diagnosed at an age group from (18-27) (n=32; 64%).in regard to the duration of illness between (4-6) years (n=20; 40%), while the number of relapses was for 1 to 2 times (n=17; 34%) and (n=15; 30%) were relapsed for 3-4 times.

This table also shows that more than half of the patients had their father/mother responsible for them (n=30; 60%).

Table 2. Clinical characteristic of the sample

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	
	Total		50	100%	
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%	
	Total		50	100%	
3-	Number of relapse	1-2	17	34.0	
		3-4	12	24.0	
		5-6	15	30.0	
		≥6	6	12.0	
	Total		50	100%	
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	
	Total		50	100%	

Table 3. Distribution of the sample according to chance of relapse relevant to life events factors

Class	Frequency	Percentage
30 % Chance of relapse	27	54
50 % Chance of relapse	17	34
80 % Chance of relapse	6	12
Total	50	100

This table shows that about half of the participants have "30%" chance of relapse **(n=27; 54%)as c**alculated and scoring according to the (Holmes-Rahe Social Readjustment Scale) as illustrated in (Appendix B). This appendix showed that the majority of participants have experienced continuous familial disputes (n=33; 66%).

Appendix B: Life events and patients with schizophrenic relapse.

List	Item	F	%
1	*Death of spouse*	7	14
2	Death of close family member	31	62
3	Death of close friend	12	24
4	Injury or critical illness of family member	13	26
5	Injury or critical illness of friend	8	16
6	Divorce or separation	11	22
7	Major changes in working hours or conditions	12	24
8	Retirement	7	14
9	Trouble with boss	5	10
10	Trouble with law	8	16
11	Failure in examination	11	22
12	Financial problems	21	42
13	Major changes in relation with family	25	50
14	Gaining a new family member	6	12
15	Major changes in living conditions (forced displacement)	14	28
16	Continuous familial disputes	33	66
17	Jail of family member	7	14

In addition, the results showed that there was a significant correlation between the person responsible

for the patients and the factors related to the life events at P= .010; P< (0.05).

Table 4. Multiple logistic regression for the relationship between Factors Related to Life Events and the demographical and clinical characteristics of the sample.

Variables	Factors Related to Life Events			
	Beta In	t	P-value	C.S
Gender	.128	.771	.446	NS
Age	.031	.140	.889	NS
Age on Diagnosis	-.237	-1.133	.264	NS
Social Status	.187	-1.003	.323	NS
Level of Education	-.130	-.675	.504	NS
Occupation	-.071	-407	.686	NS
Monthly Income	-.106	-.640	.526	NS
Housing Status	.159	1.020	.314	NS
Family Type	-.311	-1.960	.058	NS
Family Responsible Person	.442	2.669	.011	Sig.
Number of Relapse	.007	.049	.961	NS
Type of admission	-.195	-1.091	.282	NS

4. Discussion

Table (1) indicate that two-third of patients (60%) were males while 40% were females .This result is supported by Anger Meyer et al., (1989) who tested the hypothesis that schizophrenic men experience a poorer course than schizophrenic women. The findings of their study demonstrated that schizophrenic women experience fewer re-hospitalizations and shorter lengths of stay, and survive longer in the community than schizophrenic men. Also this result agrees with Jungbauer et al., (2004) who emphasized that men are at a great risk of poor-outcomes, perhaps because they often lose their social contacts they live alone, and so the gender difference was reversed.

This result was also consistent with Eaton et al., (1994) who found that women are more amenable to follow-up than men. While this result conflict with Whitehorn et al., (2004) who found in their study that sex was not significantly associated with relapse.

The result of the study (table 1) also indicates that the ages of 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. This result supported by Hoffmann, (1994) who found in his study that age is relevant to the re-hospitalization of schizophrenic patients as a predictive value and correlates with other factors relevant to readmission.

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. Also Sridharan et al., (2002), stated that schizophrenic patients were mostly in younger age.

Table (1) also revealed that half of the sample were unmarried (50%) while (38%) of them were married. 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.

This may be explained by the early onset of the disease, and these patients have difficulties to maintain their daily living. 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. .Robinson et al., (1999) reported that low level education in childhood and adolescence is associated with relapse of schizophrenia. These result consistent with Suzuki et al., (2003) who found that (59.7%) of the patients in their study were at a high school level, and ten percent of their patients were at a Bachelor level.

This study reveals that 28% of the samples have free work, and 24% of them were housewives. Also, Chabungbam et al., (2007) found in their study 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. Robnison et al.,(1999) reported that after the onset of schizophrenia (period of un employment) has been observed to be associated with relapse and readmission.

This result is consistent with study of. Kuipers, (1992) who stated that patients with schizophrenia have unemployment rate of around 80 percent. The study indicates that two-third of the sample (62%) have a moderate level of monthly income. These result approved by Chabungbam et al., (2007) found that the monthly income in the majority (70%) was insufficient.

Linn et al., (1982) revealed that the income of the patients did not predict relapse. This is because of patients' dependence on their family. Table (2) shows that two-third of the patients (64%) were at ages that ranged between 18-27 when diagnosed with schizophrenia. 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. Lndistrom and Knorring, (1994) found that the mean age at onset was 22 years.

Haro et al., (2003)(22) also reported that both of age on onset and time to the first re-hospitalization were strong early predictors of chronic in schizophrenia. Also Mortensen and Eaton, (1994) found that readmission risk decreased with the increasing age at first schizophrenia admission. They reported that age > 40 years reduced the risk of re-hospitalization and age > 30 years reduced the rate of relapse in patients on maintenance treatment.

Table (2) also reveals that the highest percentage (40%) of duration of illness was (4-6 years).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. Table (2) also represents the highest percentage (34% (of number of relapses was (1-2) years.

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.

This result also consistent with Bobbie, (2005) who stated that 50% of the schizophrenic patients under normal conditions relapse within one year after their latest episode, frequently spending 15-20% of their time in psychiatric hospitalization. Laster, (2000) stated that although antipsychotic medications are effective in reducing relapse rates, 30% to 40% of client's relapse happens within one year after discharge.

The result of table (2) also agrees with Wiersama et al., (1998), who reported that relapse will occur in about a third of the patients in the first 12-18 months.

Haro et al., (2003)(29) also agree with this study; they found that 33% of patients relapse in the two years following medication change. Age, employment status, hostility, clinical severity and antipsychotic treatments were factors associated with the time of relapse.

Also John et al., (2005)(30) found that 19 - 31% of the patients relapsed over a two year period. Table (2) shows that the two-third of patient's care-givers (60%) was father and mother. Uehara et al., (1997) found that the parents (87%) were the key relatives in caring for the schizophrenic patients.

Table (3) shows the chance of relapse due to exposure to recent life events, it represents that half of the sample (54%) have 30% chance of relapse because of the factors related to life events. Hunter and Storat, (1994) they stated that the life events have major role in schizophrenic relapses and that were documented in both retrospective and prospective studies.

The study of Stefano et al., (1997) supports the result of this study; they found that cognitive vulnerability enhances susceptibility to stressful events and could be considered an index for relapses, so cognitive disturbances should be assessed because those patients have less effective coping strategies. Ventura et al., (1989); Canton and Fraccon, (1985) they stated that the threatening of life events "in many patients" can be considered risk factors for the development of an acute schizophrenic episode. Day, (2005) stated that stressful life events have been found to be part of the onset of schizophrenic episodes. Therefore, Stuart, (2007) stated that the relationship of stressful life events with the cause, onset, course, and outcomes of schizophrenia has been the focus of much research and there is also a focus on the nature of the event and the degree of change it requires.Life events may have vulnerability effects in reducing an individual's resistance and coping resources and thus greatly advancing or bringing about schizophrenic disorder. (Bibbington et al., 1993).

Marvin et al., (2000) reported that approximately 40% of the patients and relatives were able to relate the most recent episode to stressful life events such as the loss of a significant other, the loss of a job, marital problems, etc; this was due to the feeling of being denied, repressed, over- looked, or forgotten by these patients. Tennat, (1985) found that very recent life events trigger onset. They were capable of precipitating relapse. Ventura et al., (1992) found significantly higher frequency of life events in the month prior to relapse. While, Horan et al.,(2005) found that the schizophrenic patients reported significantly lower rates of life events, and they experience "less controllable" and " more poorly handled" factors to these stressful events. Schwartz and Myers, (1994) found that the correlation between life events and schizophrenia is weak. Ventura et al., (1989) found that life events appear to have no significant effect. Table (4) represents there is no association between the life event and the socio-demographic variable except in person responsible for the patient. This result inconsistence with the following studies: Ventura et al., (1989) have shown a significant association between a number of life events and schizophrenia relapse, also they found life events to be a significant predictor of relapse in patients on medication but not in patients off medication. The result of Christina et al., (1997) showed an increase in life- events 3 weeks preceding relapses. While Christensen et al., (2003) found that women experienced a significantly higher number of life events than men

5. Conclusions

Most patients were males of (18-27) years old of secondary education, with free employment, and duration of illness that ranged from (4-6) ;(40%) of them have number of relapse from (1-2), (34%). Furthermore, the prediction of relapse is an important and desirable goal in this study.in addition, experiencing a stressful life

event was at 30% chances to relapse, because the patients found support for coping with the life events from their family.

6. Recommendation
The results of the current study recommend to provide care and treat patients at their home environment. Additionally, educate patient and his family in particular and society about accepting mentally ill as a member in the society and how to deal with stress and basic home care.

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