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Prevalence of Relapse and Associated Factors in Patient with Schizophrenia at Amanuel Mental Specialized Hospital, Addis Ababa, Ethiopia: Institution Based Cross Sectional Study

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Abstract

More than fifty one and half millionpeople globally and nationally suffer from schizophrenia. Relapse rates vary from 50% to 92% globally. Factors that associated with relapse are drug non adherence, substance abuse, co-morbid illness and stressful life events. Aims to assess prevalence and associated factors of schizophrenia relapse among patients at Amanuel Mental Specialized hospital, Addis Ababa, Ethiopia.Institution based cross sectional study conducted at Amanuel Mental Specialized Hospital from April one to thirty 2011. Data were collected by using pretested semi structured questionnaire in form of interview technique to collect data from 422 patients. The collected data were exposed to statistical treatments.Among participants 43.3% of them had relapse of schizophrenia. Factors with associated to schizophrenia relapse were depression, 1.95 [AOR (95% C.I, 1.95(1.17, 3.25)], suicidal ideation [AOR (95% C.I**,** 9.12(4.59, 17.92)] and drug non-adherence have a significance association with relapse of schizophrenia [AOR (95% C.I**,** 2.80(1.58, 4.96)]. The prevalence of relapse of schizophrenia is a common and major problem in Ethiopia and factors that are associated with relapse are depression, drug non adherence and suicidal ideation. It is better to launch community based bio psychosocial approaches.

Keywords: Relapse, schizophrenia, non-adherence, suicidal ideation, depression

Introduction

Mental and behavioral disorders are estimated to account for 12% of the global burden of disease[1]. The average prevalence of mental disorders in Ethiopia is 15% for adults and 11% for children[1]. Schizophrenia is a serious disorder of the mind and brain but it is also highly treatable. The Prevalence Rate for schizophrenia is approximately 1.1% of the population[2].

Relapse in schizophrenia is broadly recognized as the reemergence or the worsening of psychotic symptoms. 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[3]. Schizophrenia relapse rates vary from 50% to 92% globally[3]. In different studies, ranged from 44% to 50% and we have used 48 % which are similar in developed and developing countries[4, 5]. Studies from South African indicate that 61.8% of the study populations were relapsed. The monthly relapse rates are estimated to be 3.5% per month for patients on maintenance neuroleptic and 11.0% per month for patients who have discontinued their medication. Successive relapses can reduce the degree and duration of the next remission, worsen disability, and increase refractoriness to future treatment[6].

The prediction of relapse in schizophrenia is an important research and clinical goal; for there is evidence that nearly half of the 78 percent of schizophrenia patients who have repeat episodes will experience a progressive deterioration in functioning following each successive relapse[3]. Internationally, factors that commonly associated with relapse include poor adherence to treatment.

Major factor which associated with relapse of schizophrenia are substance abuse, co-morbid psychiatric illness, co-morbid medical and/or surgical condition, stressful life events, and treatment setting[7]. Poor adherence with antipsychotic medication is a major preventable cause of increased symptoms and relapse, and can also result in re hospitalization, high economic costs, and poor outcomes[8]. Relapse prevention is a great challenge to patients and their families, and mental health professionals, and is one of the major goals in the management of schizophrenia[9].

Relapse is frequent during the first years of the illness and may be associated with clinical deterioration and commonly discontinuingantipsychotic drug therapy increased the risk of relapse byalmost 5 times[8]. The chance of relapse in patients with schizophrenia living at home depends heavily on the emotional environment provided by the family. The concept of expressed emotion has evolved as an index of the quality of this environment[10].

Approximately 18-55% of patients with schizophrenia relapse had suicidal thought[11]. Depression is common later in adulthood, although this mood disorder can certainly be a result of the negative social impact of schizophrenia[12]. Approximately 46% of patients who relapsed had co-morbid psychiatric disorders 40.2% had a depressed mood compared with 10.8% of patients who had not relapsed[13]. Study finding in South Africa shows as a quarter of all patients developed a depressed mood that increasing the risk of a relapse by 5.3 times.

Substanceabuse follows the onset of psychosis and may represent as self-medication, or can cause relapse or exacerbation of psychosis[14.] .Nearly 50% of the patients who relapsed had a history of substance use /abuse compared with 30.1% of patients who had not relapsed[13].

Discharge records of patients with schizophrenia relapse as the primary diagnosis were significantly in descending order of morbidity ratios, acquired hypothyroidism, obesity and other hyper alimentation disorders, asthma, essential hypertension, and type II diabetes[15].

There were few published data and almost there was no research done in Ethiopia on relapse of schizophrenia regarding its prevalence and associated factors in order to implement effective measures and strategies to solve the problem with the scarcity of human and material resources and come-up with some recommendations.

Hence, the objective of this study was to assess the prevalence of relapse and associated factors in patient with schizophrenia at, Amanuel mental specialized hospital, Addis Ababa, Ethiopia.

Materials and Methods

This cross sectional institution based study was conducted among schizophrenic patients whom had regular follow up for a one year period at Amanueal Mental Specialized Hospital A.A, Ethiopia. The hospital had more than 300 beds with 12 psychiatrists, treated more than 500 patients per day at outpatient department. The Study was conducted from April one to April 25/2011.sample size was calculated using single population proportion estimate with margin of error 0.05&proportion of event occurrence at 50% with 10% of non-response rate. Based on the above assumption the minimum sample size required for the study was 422 among this the response rate was 94.8%. The study subjects selected using systematic random sampling technique at OPD level with structured questionnaires by interview and record review technique. The outcome variable was relapse of schizophrenia .Clinical and socio demographic characteristics were factors which affect outcome variables.

Operational definitions:

Relapse;stated as reemergence or the worsening of psychotic symptoms. More specifically, certain criteria are used to define relapse; they include aggravation of positive or negative symptoms, hospital admission in the past 6 months as a result of psychotic symptoms, and more intensive case management and/or a change in medication.

The data were analyzed with suitable statistical pacakages. Level of significance i.e., p-value<0.05.crude and adjusted logistic regression analysis used to identify associated factors of relapse. Ethical clearance was obtained from university of Gondar Institutional Review Board(IRB), written permission were obtained from Amanuel hospital ,informed consent had gotten from patient, name of patient, ID and address kept as confidential.

Results

3.1 Socio demographic characteristics: The response rate was 94.8%. Among the respondents, most of them 262 (65.5%) were male. The median ages of participants were 33.0 years with minimum 15 and maximum 79 years. Regarding marital status, 258 (64.5%) never married, orthodox Christianity 231 (57.8%) by religion, about 321 (80.3%) lived with family members, and 325(81.3%) had support system. From source of income point of view, 100(25.0%) were employed, 143(35.8%) dependent on their family and 158(39.3%) were neither familydependent nor employed (Table1).

Table 1: Selected Socio demographic characteristics of schizophrenic respondent at Amanuel Mental Specialized Hospital AA, Ethiopia, April 2011, (n=400)

Variable		Frequency	Percentage (%)
Age			
	15-24	69	17.3
	25-34	161	40.3
	35-44	127	31.5
	>=45	43	10.8
Sex			
	Male	262	65.5
	Female	138	34.5
Ethnicity			
	Amhara	99	24.8
	Oromo	176	44.0
	Gurage	106	26.5
	Others	19	4.8
Marital status	Ever married*	142	35.5
	Never married	258	64.5
support system	Yes	325	81.3
	No	75	18.8
Occupation			
	Employed	100	25.0
	Not employed	300	75.0
Educational status			
	Illiterate	64	16.0
	Primary	95	23.8
	Secondary	168	42.0
	Tertiary	73	18.3

3.2 Clinical characteristics: The respondents who develop co- morbid psychiatric and medical illness, predominantly were develop depression 127(31.5%) and hypertension 131(32.8%).Regarding their first visits, more than half of them are visited by psychiatrist 204 (51.0%), adherence to the prescribed drug 318 (79.5%), had not used substance 301(75.3%), and had not suicidal thought 280(70.0%) (Table2).

Table 2: Selected Clinical characteristics of schizophrenic respondent at Amanuel Mental Specialized Hospital AA, Ethiopia, April 2011, (n=400)

Variable		Frequency	Percentage (%)
Co morbid psychiatric illness	None	202	50.5
	Depression	127	31.5
	Anxiety	58	14.5
	Others	13	3.3
Co morbid medical illness	None	126	31.5
	Hypertension	131	32.8
	Diabetes	127	31.8
	Obesity	16	4.0
First visited by	Psychiatrist	204	51.0
	Psychiatric nurse	76	19.0
	Non-psychiatric Health professionals	120	30.0
Adherence	Yes	318	79.5
	No	82	20.5
Substance used	Yes	99	24.8
	No	301	75.3
Suicidal ideation	Yes	120	30.0
	No	280	70.0

3.3 Prevalence of schizophrenia relapses:

From the study participants**,** 43.3% of them meet schizophrenia relapse and the rest had not fulfilled relapse criteria.

3.4 Schizophrenia relapse and its Correlation: From bivariate logistic regression analysis, primary educational level, substance use, obesity, depression and anxiety, and others (personality and obsessive compulsive disorders), drug non adherence, and suicidal thought associated with relapse of schizophrenia. In multivariate analysis, drug non-adherence [AOR (95% C.I, 2.80(1.58, 4.96)], depression [AOR (95% C.I, 1.95(1.17, 3.25)] and suicidal ideation [AOR (95% C.I, 9.12(4.59, 17.92)] associated with relapse of schizophrenia.

Table 3: Results in multivariate logistic regression showing factors associated with relapse of schizophrenia, among study participants at Amanuel mental specialized-hospital, AA, Ethiopia, and April, 2011.

Variable		Relapse Status		AOR(95%CI)
		YES	NO	
Common psychiatric illness				
	None	63(31.2)	139(68.8)	1
	Depression	38(65.5)	20(34.5)	1.95(1.17,3.25)*
	Anxiety	64(50.4)	63(49.6)	2.02(0.94,4.35)
	Others* *	10(76.9)	3(23.1)	2.45(0.50,11.88)
Comorbid Medical illness				
	None	51(40.5)	75(59.5)	1
	Hypertension	53(40.5)	78(59.5)	0.99(0.55,1.77)
	Diabetes	60(47.2)	67(52.8)	1.56(0.87,2.81)
	Obesity	11(68.8)	5(31.3)	1.37(0.36,5.11)
Drug adherence				
	Yes	123(38.7)	195(61.3)	1
	No	52(63.4)	30(36.6)	2.80(1.58,4.96)*
Substance use				
	Yes	54(54.5)	45(45.5)	1.37(0.78,2.41)
	No	109(36.2)	192(63.8)	1
Suicidal ideation				
	Yes	76(84.4)	14(15.6)	9.12(4.59,17.92)*
	No	98(31.6)	212(68.4)	1
Educational status				
	Illiterate	30(46.2)	34(53.1)	1.98(0.88,4.44)
	Primary	48(50.5)	47(49.5)	1.97(0.95,4.12)
	Secondary	73(43.5)	95(56.5	1.42(0.73,2.81)
	Tertiary	24(32.9)	49(67.1)	1

P-value<0.05

Discussion

This study shows that prevalence of schizophrenia relapse among schizophrenic patients is 43.3%. The most common outcome of schizophrenia is usually a remitting course with one or multiple relapses in 50-92% of cases[17]. Study from South Africa indicates that most (61.8%) of the study populations are relapsed[13]. Results in this study show that there is relatively less relapse when it is compared to South African and global findings of relapse rate of schizophrenia. This may be associated with socio–demographic difference within different countries. For instance, finding obtained in Western settings may not be applicable to other ethnic groups[17]. This study also differs from South Africa study regarding sample population inclusion criteria. but this study didn't limit the sample population i.e., greater or equal to one year whereas the study conducted in South Africa used five year period sample.

In mentally ill patients, adherence to treatment remains a therapeutic challenge and a factor that is difficult to quantify. Finding in this study indicates that drug nonadherence which increases the likelihood of relapse by 2.80 times to that of adhere to the treatment. On the other hand, studies from South Africa indicate that adherence and relapse have no any association. This may arise from self-reports of adherence which are not always reliable. So adherence should be ratified by other methods. The difference may also be due to educational background and degree of cognitive impairments (i.e. previous study limited the study participant inclusion criteria) of the patient. Literatures show that schizophrenia causes cognitive disturbance [18]. For example, in this study, patients who don't take their treatment are due to forgetfulness 31(7.8%) which is the main reason for their poor adherence. Other possibilities are associated with poor understanding about the nature of mental illness and its course. Therefore, drug non-adherence could cause rebounding or reemerging of schizophrenia.

This study finding indicates that depression increases the chance of relapse by 1.95 times. Studies on depression associated with schizophrenia show a variation ranging from a high of 75% to a low of 7 % [19]. For example, studies from South Africa indicate that depressed mood during the period of study increases the risk of a relapse by 5.3 times[20].

Substance abuse/use has no significant association with relapse of schizophrenia according to the current study. This finding differs from previous findings i.e. strong associations with relapses and a greater risk of re-hospitalization[21, 22]. This could be due to self-reports of substance use are not always reliable because patients might not revealed their use of substances due to fear of disappointing the treating care giver .Some studies supported the current finding i.e. there are no association between substance abuse and relapse[23]. Even though substance use didn't have any association, it must be emphasized because, it lead to increased psychosocial problems, infections, sexually risky behavior, and hostile and

disorganized behavior and more so in the presence of other health-related problems, poverty, insufficient food, poor housing and widespread unemployment which may predispose for relapse.

Regarding suicidal thought, this study indicates that there is association with likelihoods of relapse i.e. 9.12 times a chance of being relapsed and develop new course of schizophrenia than others who don't face suicidal thought. Other studies also support this finding that approximately 18-55% of patients who face schizophrenia relapse have suicidal thought due to stressful life event and depressed mood[17, 24].

Conclusions

The prevalence of relapse of schizophrenia is a common and major problem among Ethiopia and factors that associated with relapse are depression, drug non-adherence and suicidal ideation. Hence itdeterioratesthe treatment outcome of schizophrenia and affects quality of life of clients.more over burden for family and nationsinterims of socioeconomic situation

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