PREVALENCE OF RELAPSE AND ASSOCIATED FACTORS AMONG PATIENTS WITH PSYCHOTIC DISORDERS ATTENDING SERVICES RENDERED AT JIMMA UNIVERSITY SPECIALIZED HOSPITAL SOUTH WEST ETHIOPIA

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Abstract

Background: Relapse is re-emergence of psychotic symptoms. Psychotic disorders have relapses associated with the nature of the illnesses or some other associated factors. Most of the time patients with previous history of illness, with severe type or ongoing stressors have high risk of relapse. The common factors associated with relapse are non-adherence to medication, psychosocial stressors, co morbid substance use (illnesses) and staying longer duration before psychiatric treatment. Relapse leads patients to have longer time of treatment and repeated hospitalization. This affects the patients' prognosis in the long run.

Objective: To assess prevalence of relapse and associated factors among patients with psychotic disorders

Methods: This study was conducted using cross-sectional study design to determine prevalence of relapse and associated factors among patients with psychotic disorders by using standard questionnaire. Data were entered and analyzed using statistical package for social science (SPSS version 20). The association between relapse and other variables was explored using binary logistic regression. Multivariate analysis was used for variables with p-value ≤ 0.25.

Results: Out of 386 patients included in the study 65% (n=251) of them had relapse ($\geq$13 on Positive Syndrome Scale). The mean positive syndrome scale was 23±SD14.43. Relapse of psychotic disorders was associated with ethnicity, income, low level of khat abuse, diagnosis (schizophrenia, schizophreniform and schizoaffective), having side effect and non-compliance.

Conclusion and recommendation: Relapse among psychotic disorder patients was high. It is one of the burdens of treating mental illnesses. Families or care givers as well as patients need regular counseling about the nature of the illness and proper medication intake. And also they need to be assessed for possible early signs of relapse and regular follow up for possible side effects.

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List of abbreviations

AIMS: - Abnormal Involuntary Movement Scale

CAGE:- Cut down Annoyed Guilty Eye opener

DAST: - Drug Abuse Screening Test

DALYs: -Disability-Adjusted Life Years

DSM IV-TR: -Diagnostic and Statistical Manual of Mental Disorders IV Text Revision

DUP: - Duration of Untreated Psychosis

JUSH: -Jimma University Specialized hospital

mGAP; -mental health Gap Action Program

MARS: -Medication Adherence Rate Scale

PANSS: -Positive and Negative Syndrome Scale

PSS:-Positive Syndrome Scale

SPSS: -Statistical Package of Social Sciences

WHO: - World Health Organization

Chapter one: Introduction

1.1 Back ground

Mental illness is among the prevalent non communicable disease worldwide. These disorders result in high level of mortality and morbidity across all countries. According to the mental health gap action program (mhGAP) mental and neurological disorders account about 14% of the global burden of disease, measured in disability-adjusted life years (DALYs) [1].

According to the 2008's world health organization's (WHO) report, approximately 450 million people affected by mental illness globally [2].

The numbers of mental disorders in Diagnostic and Statistical Manual of Mental Disorders IV Text Revision (DSM IV-TR) classification reaches up to 365. Out of these disorders psychotic disorders are the most impairing and burdensome diseases. Psychotic disorders are mental illnesses that characterized by gross impairment in reality testing and personal functioning as evidenced by disturbances in thinking, perception, or behavior. The narrow definition of psychosis is delusion and hallucination. But there are other symptoms like disorganized speech, and disorganized or catatonic behavior. These symptoms are found in schizophrenia, schizoaffective, schizophreniform and brief psychotic disorder [3]. From these disorders brief psychotic disorder has good prognosis. Most patients recover fast and another episode occur if there is underlying stressor [4]. The possible indicators for good prognosis are good pre morbid adjustment, presence of severe precipitating stressor and short duration of symptoms [5].

Relapse is a re-emergence of psychotic symptoms associated with significant disturbance in functioning and social behavior. The relapse of psychotic disorders could result in repeated hospitalization and needing longer time of staying on treatment [6].

1.2 Statement of the problem

A large proportion of psychotic patients were suffering from psychosocial disability. Australian finding showed that there was widespread impairment in sexual, social relationships and in the performance of daily activities living. According to study done in urban Australia, out of 980 patients with psychotic disorders more than half of them, expressed dissatisfaction with their life. Poor pre-morbid work, social adjustment and poor course of illness were potent risk factors for

diverse forms of disability in persons with psychosis. This showed that the consequences of psychotic disorders are serious and leading patients to become poorly functioning [7].

In general population, lifetime prevalence of schizophrenia ranges from 0.5% to 1.6%. The burden of schizophrenia ranges from individual patient level to community level. Patients suffer from symptoms and the consequences of the symptoms. In addition to the direct burden of the disease, the affected persons are confronted with prejudice and discrimination. The stigma attached to schizophrenia creates a vicious cycle of discrimination leading to social isolation, unemployment, drug abuse, long lasting institutionalization or even homelessness, which further decreases the chances for recovery. Families of patients carry the burden of patients through restricted social activities and economic problems [8].

Acute and transient psychosis, in which the duration of illness is from 1 month to 3 months, have good outcome as compared to schizophrenia [9]. Relapse is common among patients with schizophrenia. Research showed that, most patients have relapse repeatedly and after some years they have ongoing symptoms leading them to become totally dependent on others. Relapse costs a lot for patients and their families and imposes a financial burden on hospital and community services [10].

Relapse is a major factor in generating high hospitalization rates and costs. Research showed that the costs for relapse cases were four times higher than those for non-relapse cases [11].

Some patients experience relapse while taking maintenance medication and this stimulated a search for other contributory factors which has now led to an emerging consensus. One third of adult patients with psychotic disorders were admitted annually due to relapse. Also, largest group of patients with affective disorder are admitted to the hospital as a result of relapse. Psychotic disorders account for one third (n=460) of annual admissions for adults of working age [12].

Studies found out that, as patients have increased in the frequency of relapse they will have poor response and takes longer time to remit in the subsequent relapses. This may lead the patients to stay on medication for a longer period of time. Relapse is one of the many possible causes for rehospitalization. As the patients have increased relapse of psychotic symptoms they have also increased chance repeated admissions to the hospital [6].

Family care givers carry the higher burden of mental illness through caring to their relatives. These includes direct and indirect burden of caring for patients [11]. In a study done in rural Ethiopia families of schizophrenia patients had spent $16.52 out-of-pocket and on average spent 3.12 (SD = 4.54) days of work due to care giving in one month [13].

This shows that relapse plays a significant role in the health of an individual patient and the overall socio economic status of community.

Nowadays, mental health researches in Ethiopia are increasing. But most of the studies focus on the magnitude of the illnesses and there is limited study about relapses of illnesses.

The aim of this study is to assess the possible causes of relapse in patients with psychosis and the factors that contribute to relapse so that options to tackle the burden on the patients, family, health professionals and community level.

Chapter two: Literature review

2.1 Prevalence of relapse among patients with psychotic disorders

Brief psychotic disorder has a distinctive and benign long-term course when compared with other remitting psychoses. A study done in USA on patients with brief psychotic disorder and other remitting psychotic patients showed that relapse was 6% (n=1) among patients with brief psychotic disorder and 50% (n=18) among patients with other remitting psychotic patients [14].

Additionally, a study done in Canada on patients with schizophrenia and schizoaffective disorder showed that, 35.7 % (n=34), of the total participants had relapse [15].

Other study done in Israel on patients with schizophreniform found that, 84% of the participants had additional psychotic episode and 70% of them had schizophrenia spectrum (schizophrenia and schizoaffective disorder [16].

Study done in Spain on non-affective psychotic patients showed that 65% (n=91) of them had at least one relapse over the three year follow up [17].

In another study done in USA on patients with first episode schizophrenia and schizoaffective disorder the relapse rates in the first, second and third year were 81.9%, 78% and 86.2%, respectively [18].

A three year retrospective cohort study done in Hong Kong on first episode psychotic patients showed that, nearly half of the patients had relapse over the three year follow up. In the first year 19.3% patients with first episode of psychotic disorder had relapse. However, the prevalence of relapse in the second year and third year was 38.4% and 48.1%, respectively [19].

In Ethiopia, a community based study done in Butajira found that, 54% of schizophrenic patients have relapse, 17.6% partial remission and 27.4% full remission. There was poor outcome due to side effects of the medication and untreated psychosis for long period of time [20].

2.2 Socio demographic factors

A cohort study done in France on patients suffering from schizophrenia found that, patients who had relapse were significantly younger than patients without relapse [21].

A study done in Hong Kong on first episode psychotic patients showed that, patients with the diagnosis of schizophrenia and younger age have increased risk of relapse [19].

A literature review done on gender and schizophrenia described that women have better remission and lower relapses. The reasons could be increased use of psycho active substances and the early onset of the illness among males [22].

A comparative study done in India between relapse and remitting patients of schizophrenia showed that no marked difference between the two groups on their socio demographic statuses. For example, the mean age of relapse group was 33.8±10.2 and 33.85±11.2 for remitting group [23].

Most of psychotic disorders impair patients' functional and social ability, even after being on medication. In this context, it is important to help patients to recover from their illness and finding ways to lead their own life and to develop a positive sense of identity, hopefulness and self-determination. It also encourages patients to develop coping mechanism and better understanding of their illness. Religion and spirituality helps patients with this regard. But sometimes religious practices could be stressful to patients but no evidence that it leads patients to relapse of their symptoms [24].

Study done in South Africa showed that there was a trend towards younger patients being more likely to relapse. Relapsing patients in this study population were more likely to have achieved only a primary level of education 30.6%(n=41). Schizophrenia tends to have an early age of onset and a chronic course with relapses and a declining level of functioning that contributes to early school drop-out [25].

2.3 Psychosocial factors

Meta analysis of studies about risk factors for relapse stated that patients with psychosis who had good social support had low relapse rates [26].

According to the study done in Australia on 52 families in which they have family members with diagnosis of schizophrenia (31%) and affective psychosis (69%) showed that positive family interaction was associated with fewer relapses [27].

A study done in Italy on outpatient paranoid schizophrenic patients showed that, relapses among subjects without severe life events were associated with less coping ability. The main finding of the study is that schizophrenic patients who had relapsed without the occurrence of severe stressful life events in the preceding month manifested a significantly more complaints of subjective cognitive dysfunction [28].

Study done in United States of America on patients with schizophrenia and schizoaffective disorder found that, patients with poor premorbid adaptation to school and premorbid social withdrawal relapsed earlier than patients who were non adherent to medication [18].

2.4 Medication related factors

Typical anti psychotics have higher risk of relapse than atypical antipsychotics due to its extra pyramidal side effects. Also medication side effects and non-adherence to medications were associated with relapse among patients with psychotic disorders. Research conducted in United States of America found that, 60% of patients with schizophrenia and schizoaffective disorders taking haloperidol had higher risk of relapse when compared to those patients taking risperidone (34%) [29].

A study done in UK on patients with schizophrenia or schizoaffective disorder showed that, non-adherence to treatment was definite cause of relapse for more than half of patients 78% (n=38) and in 14% (n=10) suspected factor [30].

A review of case studies and literatures on withdrawal of anti-psychotics in UK showed that, excess risk of relapse was concentrated in the first few months after discontinuation of medication. A subsequent meta-analysis of data found that, 25 % and 50 % risk of relapse occur within 10 weeks and 30 weeks after abrupt medication discontinuation respectively [31].

Study done in Norway on patients with schizophrenia, schizoaffective disorder and schizophreniform disorder, showed that non-adherence with oral, depot and combined

antipsychotic medication were associated with increased frequencies of relapses. Additionally, in this finding patients who were on depot anti-psychotic medication have higher relapse rate compared to patients who do not use depot medication. Because, patients who take depot medications have more symptoms, decreased function and less ability to cooperate with the health services which indicates depot users have a more malignant illness than the rest of the patients [32].

2.5 Substance related factors

Substance use in psychiatric patients is high. A study done in London on patients with schizophrenia showed that the prevalence of alcohol use disorders was 27%. Patients with substance use disorders reported that they use the substance for intoxication effects, for social interaction, to relief from dysphoria, to cope with psychotic symptoms and medication side effects. Also, they use substances to increase pleasure, to feel more energetic, to increase emotions, to talk more and to improve concentration [33]. Environmental, genetic vulnerability and stressful life events can trigger relapse in an existing illness. Even if patients are taking antipsychotic medication, concurrent intake of substances has negative effects on the course of the illness [34].

There is also supportive study which was done in Australia on patients with diagnosis of schizophrenia spectrum disorder, which found substance use has marked effect on relapse rate. In this study, the relapse rate of substance miss users was higher than those non users. Among substance miss users, those who were classified as heavy users have higher and early rate of relapse [35].

A study done in Ammanuel hospital on patients with schizophrenia found that, alcohol and khat abuse exacerbates the relapse of the psychotic illness and poor compliance with treatment. These dual problems lead to longer and more frequent readmissions to hospital [36].

2.6 Duration of untreated psychosis

Study done in UK on schizophrenic patients found that risk of relapse was high among patients whose duration of untreated illness is long [37].

Study done in Italy, on first episode schizophrenia patients found that, multi-episode patients had an earlier onset of the illness. Also, this study found that, longer DUP (duration of untreated psychosis) is a significant predictors of the relapse [38].

Another study done in Poland showed that there was positive correlation between DUP and relapse [39].

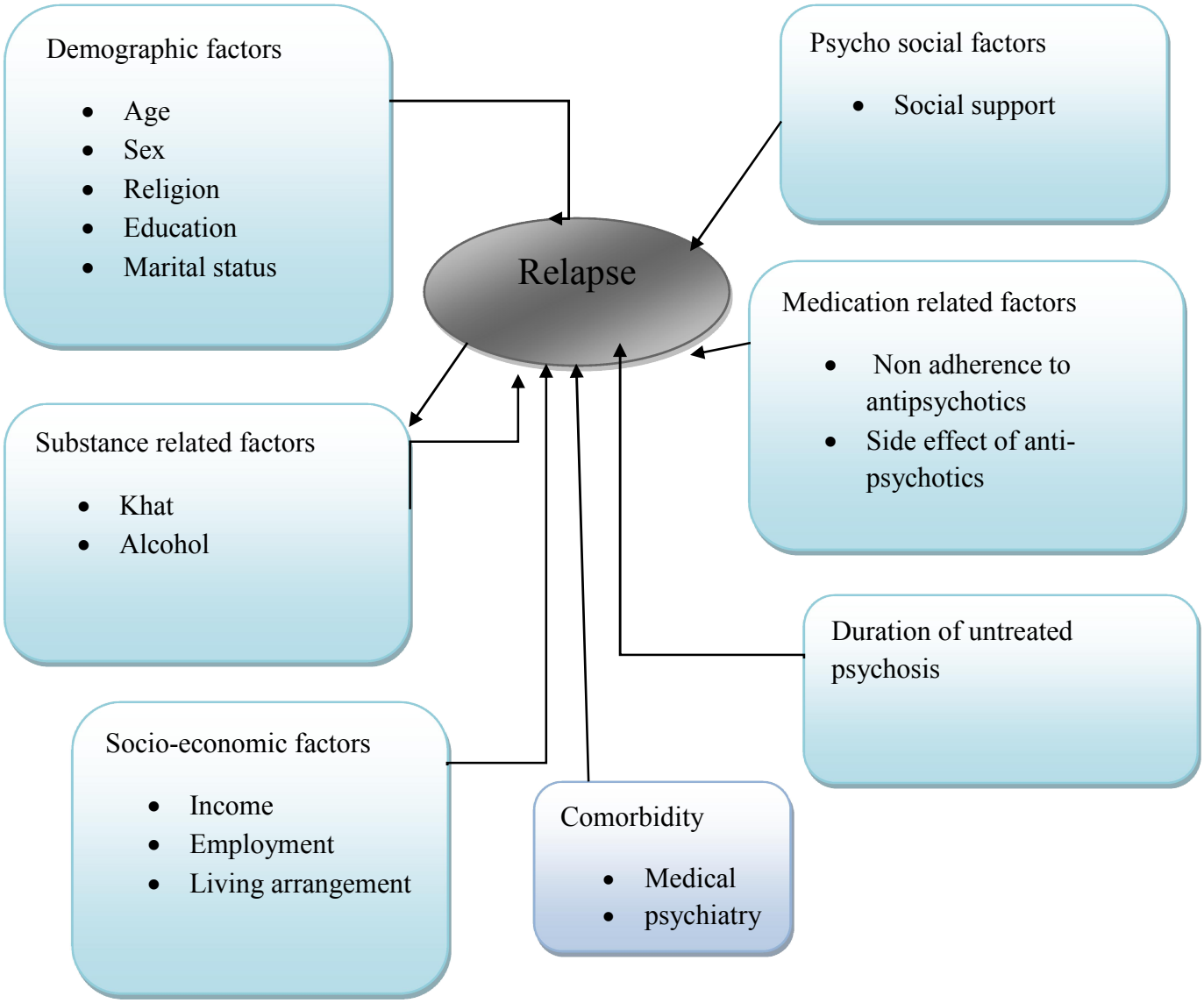
2.7 Comorbidity

Co-occurrence of schizophrenia and somatic illnesses is frequent. Genetic factors, sedentary life style, poor diet, risk behaviors and smoking are some important factors that contribute to such comorbidity [40].

Depression and anxiety are often associated with schizophrenia. Up to 40% of people have clinical levels of depression and anxiety symptoms could occur in 60% of patients with chronic psychotic disorder [41].

Depression in schizophrenia has been associated with poor outcome, impaired functioning, personal suffering, higher rates of relapse or re-hospitalization and even suicide [42].

Conceptual frame work



Chapter three: Significance of the study

Relapse is common among patients with psychotic disorders. Among them, schizophrenia known by repeated relapse cases. The relapse could be either due to the nature of the illness or due to other associated factors. The factors could be medication related, patient related or care givers related factors. Out of this medication related factors and patient related factors account for the major portion of relapse. Some of the examples are side effects of medication which may lead patients to be non-compliant to their medication and concurrent intake of psycho active drugs with medication.

The effects of relapse are serious at individual level and at community level. Relapse could lead to repeated admissions and decrease in functionality level which indirectly could affect the community's economic status in the long run. Research shows that the cost of relapse around four times higher.

Patients with repeated occurrence of psychotic episodes need longer time of stay on medication and repeated admissions. This will affect the patients' future functioning leading to becoming a burden to their family. Care givers will become exhausted to care in subsequent relapses. This creates reduced interaction with patients which is another precipitating factor for relapse.

One the other hand, patients with good compliance, not taking psychotic active substances have good outcome of their illness. So if the factors leading to relapse are understood and interventions given patients having relapse will be minimized.

In general, all these show the severity and the scope of relapse in psychotic disorders is high and the main problem to be addressed in mental health.

Even though the scope of relapse is high, there are limited research done in sub-Saharan Africa on prevalence of relapse and associated factors among patients with psychotic disorders. Most of the studies are about schizophrenia. Also in Ethiopia, studies done about relapse are specific to schizophrenia.

So, this study attempts to identify the prevalence of relapse and associated factors among patients with psychotic disorders. The findings could potentially be useful for policy makers and health planners to include this issue in the policy and plan. In addition it will provide base line data for

researchers to do further research regarding relapse and associated factors among patients with psychotic disorders.

Chapter four: Objectives

4.1General objectives

To assess prevalence of relapse and associated factors among patients with psychotic disorders attending services rendered at Jimma University Specialized Hospital (JUSH) psychiatry clinic.

4.2Specific objectives

- To estimate the prevalence of relapse among patients with psychotic disorders attending services at Jimma University specialized Hospital (JUSH) psychiatry clinic.

- To identify factors associated with relapse among patients with psychotic disorders attending services at Jimma University Specialized Hospital.

Chapter five: Methods and materials

5.1 Study area & Period

This study was conducted in Jimma University specialized hospital which is located in south west part of Ethiopia 354km far from Addis Ababa. JUSH is one of the oldest public hospitals in the country. It was established in 1937 during Italian occupation for the service of their soldiers. The hospital provides psychiatric services for inpatient and outpatient services for about 3939 patients [43]. The outpatient psychiatry clinic at JUSH was established in 1988.The research was conducted in November, 2013.

5.2 Study design

A cross-sectional study design was used.

5.3 Source and Study Population

5.3.1 Source of population

All psychotic patients who were on follow up at JUSH psychiatric clinic.

5.3.2 Study population

The study population was a sample of Patients with psychotic disorders who came for follow-up at JUSH psychiatric clinic during study period.

5.3.3 Inclusion criteria

Registered patients with psychotic disorders age ≥ 18 years.

5.3.4. Exclusion criteria

Adult patients with severe psychosis i.e. agitated patients or mute patients and patients having cognitive problem were excluded.

5.4 Sample size determination

The sample size for the study was determined by assuming relapse rate 50% giving any particular out come to be with 5% marginal error and 95% confidence interval of certainty (alpha = 0.05). Based on this assumption, the actual sample size for the study is computed using one-sample population proportion formula as indicated below.

$$n = (Z\alpha/2)^2 \frac{p\,q}{d^2}$$

Where

n= is the required sample size

Z = Critical value 1.96.

P= Estimated prevalence of relapse among patients with psychotic disorders

q= 1-p

d= the margin of error

So, the sample size is:

$$n = \frac{(1.96)^2\ 0.5(1-0.5)}{(0.05)^2} = 384.16 \approx 385$$

Since the population is less than 10,000, correction formula was used

$n_f = n/(1+n/N)$, where N is number of people using the psychiatry service

= 385/ (1+385/3939) ≈ 351

By adding 10%, 35.1+351

The total sample size will be ≈386

5.5 Sampling procedure

All patients who meet the inclusion criteria were included in the study. Consecutive sampling method was utilized.

5.6 Variables

Dependent variables

- Relapse of psychotic disorders

Independent variables

- Socio demographic factors (age , sex, marital status, educational level)

- Medication related factor (Adherence to anti-psychotic medications and side effect of medication)
- Substance use disorders (drinking alcohol, chewing khat)
- Duration of untreated psychotic disorder
- Comorbidity (medical, psychiatry)

5.7 Instruments and measures.

A structured interviewer administered questionnaire containing, Positive and Negative Syndrome Scale (PANSS) was used to collect data regarding relapse among patients with psychotic disorders [44]. The PANSS has been validated in Spain, USA and Sweden with internal consistency of 0.73 for positive scale, 0.83 for negative scale and 0.79 for general psychopathology [44, 45, 46]. This instrument was validated to assess relapse among patients with psychotic disorders. PANSS is a 30 item scale which has three components; positive symptoms, negative symptoms and general psychopathology. Each component has seven rating scale from absent to extreme. The total scoring for negative and positive scales ranges from 7-49 and total scoring for general psychopathology ranges from 16-112 [3, 47]. From other research patients with Positive and Negative Syndrome Scale for Schizophrenia (PANSS), positive subscale score ≥13 following a period of remission were considered as having relapse [23].

A structured interviewer administered questionnaire on medication Adherence (MARS) was used for data collection regarding adherence to anti-psychotic medication [48]. It was validated in Australia on patients with psychotic disorders mainly schizophrenia. Patients who responded ‘no’ for questions numbers 1-6 and 9-10 and ‘yes’ for question numbers 7-8 were considered as compliant those who responded ‘yes’ for question numbers 1-6 and 9-10 and ‘no’ for question numbers 7-8 were considered as non-compliant [49]. Also to collect data regarding medication side effect, Abnormal Involuntary Movement Scale (AIMS) was used. Total scores are not generally reported. Instead, changes in global severity and individual areas can be monitored over time. The AIMS is considered standard clinical practice for patients receiving long term neuroleptic drugs and is a reliable and valid instrument when used by trained clinicians [3]. The reliability of AIMS is checked among Brazilian patients [50].

CAGE (Cut down Annoyed Guilty Eye-opener scale) and DAST (Drug Abuse Screening Test) scale was used to assess substance related factors.

CAGE scale is a questionnaire used to screen for problem alcohol use only. It is short and easily applicable instrument in clinical settings. Two or more positive responses are indicative of alcoholism. The CAGE has been validated in both the US and the UK. It has a sensitivity of 84% and specificity of 95% [51].

The DAST also tended to have moderate to high levels of validity, sensitivity, and specificity. In general, all versions of the DAST yield satisfactory measures of reliability and validity for use as clinical or research tools. Furthermore, these tests are easy to administer and have been used in a variety of populations [52]. The interpretation of DAST is 0 indicates absence of substance abuse, 1-2 indicate low level of substance abuse, 3-5 indicate moderate level of substance abuse, 6-8 indicate substantial level of substance abuse and 9-10 indicate severe level of substance abuse. Those participants having moderate level of substance abuse need referral to professionals [53, 54, 55].

Social support questionnaire was also used to assess social support. It has 6 items in which each questions have two parts. The first part is about the number of individuals that participants listed as support and the second one is their level of satisfaction. A support score for each item is calculated by the number of individuals the participant listed (number score). The total support score is calculated by the mean of number scores across the items. The overall satisfaction score is calculated by the means of the satisfaction scores. The social support questionnaire has high internal reliability [56].

Comorbidity and help seeking was assessed using yes or no questions. Duration of untreated psychosis was assessed by asking patients and it was analyzed by taking the mean score.

5.8 Data collection procedures, Data collectors' selection and training

The questionnaires were pretested on a sample of (5%) patients with psychotic disorders attending psychiatry clinic at JUSH. After questionnaires pretested at JUSH psychiatry clinic patients who are not included in the study on 5% of the sample, data collection were carried out. Data were collected by interviewing patients with diagnosis of psychotic disorders coming to

JUSH psychiatry clinic for follow-up purpose. Three psychiatric nurses and two postgraduate students in mental health were assigned to collect data. Two supervisors who are also postgraduate students in mental health and the principal investigator were participated in the supervision. Before data collection, a two days training was given for the data collectors. Detail information on how to collect data, how to score the different scales used in the study and how to perform AIMS was clearly discussed with data collectors. One day training on ethical issue, objective of the study, data collection instrument, how to identify and correct error during data collection and how to encourage data collectors was given to supervisors prior to data collection.

5.9 Data quality management

During the actual data collection supervisors were assigned for data collectors. The supervisors checked the process of data collection by random spot-checking of the questionnaire to ensure reliability of the data. By the end of daily data collection the supervisor checked all filled questionnaires for proper completion. Then, the principal investigator randomly checked at least 50% of the questionnaires each day for completeness. Data collectors checked for completeness before sending the patient to home, if there are uncompleted questions.

5.10 Data processing and analysis

The collected data were entered in to epi data version 3.1. After double entry verification, the data were exported to SPSS version 20 (statistical package for social science) for analyses.

Dependent variable (outcome) and independent variables (predictors) were entered in to bivariate logistic regression in order to detect the association between dependent and independent variables. All variables with p-value less than 0.25 in binary logistic regression were entered into multivariate logistic regression by enter method (by default), in order to identify interaction between variables and to control potential confounders. Descriptive statistics like frequency, percentages and cross tabulation were also computed. Variables with p- value < 0.05 were declared to be associated with relapse.

5.11 Ethical considerations

Ethical clearance was obtained from Jimma University, College of Public Health and Medical Sciences.

5.12 Dissemination plan

The findings of the study will be submitted to Jimma University (College of Public Health and Medical Sciences and psychiatry department) and Jimma University specialized hospital. The research report will be submitted to relevant stakeholders through presentation and report. Efforts will be made to get the finding published in peer reviewed journals.

5.13 Operational definitions

Non-adherence: is a patient's behavior of taking lower or higher doses of prescribed medication, follow a schedule other than prescribed, completely abandon the treatment or refuse attending regular visits [57].

Duration of untreated psychosis: Is the period between the onset of symptoms and psychiatric treatment [58].

Relapse: Worsening of the patient's condition before there is a complete remission or before the remission has turned into a recovery (before 6 month) [59].

Remission: Is the term used when essentially all symptoms go away for at least 2 months [59].

Substance misuse: Is a maladaptive pattern of substance use leading to clinically significant impairment or distress [35].

Psychotic disorders: Psychotic disorders are mental illnesses characterized by gross impairment in reality testing and personal functioning as evidenced by disturbances in thinking, perception, or behavior. Non affective psychosis refers to psychosis not related to emotions or moods [3].

Chapter six: Results

6.1 Socio-demographic character

All participants agreed to participate in the study and the response rate was 100%. Majority of the participants were males (72.3%; n=279). The majority of participants (61.9%; n=239) were Oromo ethnicity followed by Amhara (17.1%; n=66).Of the total participants nearly 61% (234) were Islamic religion followers followed by Orthodox religion followers (25.1%; n=97). Out of the total participants participated in this study, 73.5% (n=280) of them were diagnosed as a case of schizophrenia.

The mean age of the respondents was 31.49 ± SD 9.36 years ranging from 18-68 and majority of them (48.2%; n=186) were between the ages of 25-34 years.

Nearly half of the respondents (48.7%; n=188) were married and had completed primary school (45.6%; n=176). Amongst the total respondents 29% (n=112) were unemployed. The mean monthly income of the respondents was 1446.13±SD1291.27 Ethiopian Birr and majority 120 (31.1%) was between 542-1000.

Majority of the respondents (87.8%; n=339) were living with their families (table1).

Table1: Socio demographic characteristics of patients with psychotic disorders attending services in JUSH, in 2013

Socio demographic characteristics		Number (percent)
Sex	Male	279 (72.3%)
	Female	107 (27.7%)
Age		
	18-24	79 (20.5%)
	25-34	186 (46.2%)
	35-44	82 (21.2%)
	45-54	28 (7.3%)
	55-68	11 (2.8%)
Religion	Orthodox	97 (25.1%)
	Muslim	234 (60.4%)

	Protestant	51 (13.2%)
	Catholic	1 (0.3%)
	Other*	3 (0.8%)
Frequency	Frequent	170 (44%)
	Sometimes	196 (50.8%)
	Never	20 (5.2%)
Ethnicity	Oromo	239 (61.9%)
	Amhara	66 (17.1%)
	Gurage	19 (4.9%)
	Kaffa	26 (6.7%)
	Dawro	20 (5.2%)
	Yem	5 (1.3%)
	other**	11 (2.8%)
Marital status	Single	179 (46.4%)
	Married	188 (48.7%)
	Divorced	11 (2.88%)
	Separated	2 (0.5%)
	Widowed	6 (1.6%)
Educational	Illiterate	50 (13%)
	Primary	176 (45.6%)
	Secondary	96 (24.9%)
	Tertiary	64 (16.6%)
Occupation	Unemployed	112 (29%)
	gov't employee	87 (22.5%)
	Merchant	26 (6.7%)
	Private	29 (7.5%)
	Farmer	97 (25.1%)
	other***	35 (9.1%)
Income	167-541	96 (24.9%)
	542-1000	120 (31.1%)
	1001-1888	75 (19.4%)
	1889-10000	95 (24.6%)

Other* includes Jehovah witness

Other** includes Tigrae, Wolayita and Hadiya

Other*** includes wood workers, daily laborer, house wife and students

6.2 Prevalence of relapse among psychotic patients

The internal consistency of PANSS was within normal range (cronbach's alpha= 0.98).

Out of the total participants 65% (n=251) of them were found to have relapse (PSS score ≥ 13). The mean positive syndrome sub scale was 23.07 ±SD14.43 whereas the minimum and maximum values were 7 and 48, respectively.

In this study the first symptom that had extreme value was hostility (20.7%; n=80) and the second was hallucination (19.2%; n=74). The third symptom with extreme value was suspiciousness (14.5%; n=56). Out of the seven positive symptoms grandiosity had low extreme score (0.3%; n=1).

On the negative syndrome subscale the mean score was 20.79±SD12.85. The minimum and maximum scores were 7 and 43, respectively. The symptom that had extreme value was emotional withdrawal (9.6%, n=37). On the other hand the symptom that had absent value was stereotyped thinking (48.2%, n=182).

On the general psychopathology subscale in this study the mean score was 49.10±SD27.3. The minimum and the maximum scores were 16 and 95, respectively. The symptoms that had absent value were guilty feeling (54.7%, n=211) and disorientation (57.3%, n=221). And the symptom that had extreme value was lack of judgment and insight (25.9%, n=100).

62% (n=173) of males were identified to have relapse. In 25-34 years age groups the prevalence of relapse was 71% (n=132). Amongst participants attended primary level of education 64.8% (n=114) of them had relapse. Among government employee74.7% (n=65) were identified to have relapse. But among unemployed it was 63.4% (n=71) (table 2).

Out of the total participants who were diagnosed as schizophrenia 55.7% (n=156) of them had positive syndrome scale of ≥ 13 (table 3).

6.2.1 Medication related factors

The internal consistency of MARS was within normal range (cronbach's alpha= 0.54).

Only 7.7% (n=30) of the total participants reported that they were non-compliant to their medication. Of these 93.3% (n=28) had relapse. 7.8% (n=30) of the participants forget to take their medication and about 8% (n=32) reported carelessness at a time of about taking their medication. 11.7% (n=45) of the participants reported that, they stop taking their medication when they feel better and on the other hand 9.3% (n=36) reported that they stop taking medication when their symptom worse. 9.1% (n=35) of participants reported they only take their medication when they are sick. 8.5% (n=33) of the participants reported that by staying on medication they can prevent getting sick and 75.4% (n=291) reported medication makes them feel tired (table 4).

The internal consistency of AIMS was within normal range (cronbach's alpha= 0.90).

40.7% (n=157) of the respondents were above the mean (2.99 ±SD 4.26) on abnormal involuntary movement scale. Out of patients with medication side effects, 83.4% (131) of them found to have relapsed. Out of the total respondents 10.9% (n=42) had minimal medication side effect. But 0.8% (n=3) had moderate side effect when their hands were on their knee. 29.3% (n=113) and 1.3% (n=5) of the participants had minimal and moderate side effect in open mouth without tongue protrusion respectively. However, 30.3% (n=117) and 1.3% (n=5) had minimal and moderate side effect during tongue protrusion. 19.2% (n=74) and 1.8% (n=7) of the participants had minimal and moderate side effects (gait problem) (see table 4).

6.2.2 Substance related factors

The internal consistency of DAST-10 and CAGE was within normal range (cronbach's alpha= 0.74 and 0.72, respectively).

In this study psychotic patients were identified to use substances like alcohol and khat. Nearly 49% (n=173) of the total participants were found to drink alcohol. However, 7% (n=27) of them had alcohol use disorders. Out of these 92.6% (n=25) of them were identified to have relapse. From those who had alcohol use disorders 81.5% (n=22) of them had diagnosis of schizophrenia, 7.4% (n=2) had diagnosis of brief psychotic disorder and 11.1% (n=3) had diagnosis of schizoaffective disorder (see table 5).

Also 29.5% (n=114) of the total participants were found to abuse khat. Out of this, 87.7% (n=100) of them had psychotic relapse. From those participants who abuse khat 64% (n=73) with the diagnosis of schizophrenia, 2.6% (n=3) with the diagnosis of schizophreniform, 17.5% (n=20) with diagnosis of brief psychotic disorder and 15.8 (n=18) had moderate level of khat abuse. 2.1% (n=8) of the participants reported that they abuse prescription drugs and 12.4% (n=48) abuse more than one drug. 67.4% (n=260) of the participants reported that they can stop using khat any time. 7% (n=27) of the participants reported that they neglected their family because of the use of khat and 1.8% (n=7) engage themselves in illegal activities to get khat. 2.8% (n=11) (see table 5).

6.2.3 Social support

The internal consistency of SSQ-6 was within normal range (cronbach's alpha= 0.74).

About 67.6% (n=261) of the total participants had lower score of social support. Most of the supports are from their fathers, mothers, brothers, sisters and their spouses. Out of this 3.4% (n=13) have no one to support them. And most of the participants 26.9% (n=104) had only one person to support them. From those who had low social support score 62.8% (n=164) of them found to have psychotic relapse (see table 6).

6.2.4 Duration of untreated psychosis and help seeking

The mean duration of untreated psychosis was 331.04 ± SD465.8 days. The DUP of 42.75% (n=165) of the respondents was above the mean. Out of these 64.2% (n=106) of them found to have psychotic relapse. 54.4% (n=210) and 38.34% (n=148) of the respondents used religious and traditional help seeking, respectively before coming to the hospital. Also the Positive Syndrome Scale score for those who used religious help seeking was ≥ 13 for 69.5% (n=146) and 75% (n=111) for traditional help seekers (see table 6).

6.2.5 Comorbidity

Out of the total participants 23.1% (n=89) were found to have comorbid psychiatric illnesses. These were khat abuse 12.7% (n=49), both khat and alcohol abuse 4.4% (n=17), depression 4.1% (n=16), alcohol abuse 1.3% (n=5) and social phobia 0.5% (n=2). Out of the participants who had comorbid psychiatric illnesses 87.6% (n=78) of them had relapse. The higher rates of relapse among the comorbid psychiatric illnesses were observed in patients who had khat abuse (17.1%; n=43) and both khat and alcohol abuse (6.8%; n=17). On the other hand, 6.22% (n=24) of the

participants reported that they had comorbid medical illness. These comorbidities were hypertension (2.3%, n=9), gastritis (1.3%, n=5), Tuberculosis (0.5%, n=2), diabetes mellitus (0.5%, n=2), both diabetes mellitus and hypertension (0.5%, n=2), asthma (0.5%, n=2) HIV (0.3%, n=1) and congestive heart failure (0.3%, n=1). Out of the participants who had comorbid medical illnesses 79.2% (n=19) had relapse. The higher rates of relapse among the comorbid medical illnesses were observed in patients who had hypertension (2.8%; n=7) and gastritis (2%; n=5) (table 7).

6.3 Factors associated with relapse

In the bivariate logistic regression relapse was significantly associated with gender (p-value=0.046, 95% CI=1.010-2.690), age 18-24(p-value=0.044, 95%CI=0.330-0.986) 35-44(p-value=0.108, 95%CI=0.371-1.102), income (167-541(p-value=0.057, 95%CI=0.984-2.958), 1001-1888(p-value=0.040, 95%CI=1.028-3.405), 1889-10000(p-value=<0.001, 95%CI=2.141-7.482)) and frequency of going to worship place(frequently(p-value=0.001, 95%CI=0.305-0.727), never(p-value=0.220, 95%CI=0.623-7.842). Also it was significantly associated with diagnosis (schizophrenia (p-value=0.001, 95%CI=0.135-0.577), schizophreniform and schizoaffective (p-value=0.024, 95%CI=1.368-90.256)), khat abuse (moderate (p-value=<0.001, 95%CI=3.734), substantial (p-value=0.001, 95%CI=2.173-25.571)) and alcohol dependence (p-value=0.007, 95%CI=1.715-31.553) (see table 2, table 3, table 5)

Medication adherence (p-value=0.004, 95%CI=1.958-35.615), medication side effect (p-value=<0.001, 95%CI=2.792-7.503), social support (p-value=0.193, 95%CI=0.858-2.137) and help seeking (traditional (p-value=0.001, 95%CI=1.335-3.303), religious (p-value=0.043, 95%CI=0.426-0.987) were significantly associated with relapse (table 4, table 6).

After adjusting for potential confounders in binary logistic regression analysis ethnicity(other) (aOR=0.065, 95%CI=0.007-0.602), income (167-541(aOR=3.213, 95%CI=1.376-7.505) and 1889-10000 (aOR=4.243, 95%CI=1.649-10.916), non adherence to antipsychotic medication (aOR=9.243, 95%CI=1.185-72.108), having medication side effect (aOR=15.373, 95%CI=6.581-35.911), being diagnosed as schizophrenia (aOR=0.211, 95%CI=0.079-0.563), schizophreniform and schizoaffective (aOR=13.388, 95%CI=1.213-147.789) and low level of khat abuse (aOR=0.113, 95%CI=1.017-0.749) were significantly associated with relapse (table 8).

The possibility developing relapse among patients with monthly income of 167-541 ETH Birr was 3.2 times higher than those whose income was 542-1000 ETH Birr (aOR=3.213, 95% CI: 1.376-7.505). The likely hood of having relapse among patients with monthly income of 1889-10000 ETH Birr was 4.2 times higher than those whose income was 542-1000 (aOR=4.243, 95%CI=1.649-10.916) (table 8).

The odds of relapse among psychotic patients who had diagnosis of schizophreniform and schizoaffective disorders was 13.4 times higher than brief psychotic disorder (aOR=13.388, 95% CI: 1.213-147.789). On the other hand, the odds of relapse of psychotic patients with diagnosis of schizophrenia was 0.211 times less than brief psychotic disorder (aOR=0.211, 95% CI: 0.079-0.563) (table 8).

The possibility of developing relapse among non-complaint patients was more than 9.2 times higher than that of complaint patients (aOR=9.243, 95% CI: 1.185-72.108). The probability of developing relapse among patients with medication side effect was 15.4 times higher than those patients free from medication side effects (aOR=15.373, 95% CI: 6.581-35.911). The collinearity of medication non-adherence and medication side effect was per formed, VIF= 1, which indicates they have no correlation (see table 8).

Table2: Bivariate logistic regression: - Association of relapse with socio demographic characteristics among patients with psychotic disorders attending services in JUSH, in 2013

variables	N	No relapse	Relapse	P-value	Crude OR	95% CI
Sex						
Male	279	106 (38%)	173 (62%)		Reference	
Female	107	29 (27.1%)	78 (72.9%)	0.046	1.648	1.010-2.690
Age						
18-24	79	33 (41.8%)	46 (58.2%)	0.044	0.570	0.330-0.986
25-34	186	54 (29%)	132 (71%)		Reference	
35-44	82	32 (39%)	50 (61%)	0.108	0.639	0.371-1.102
45-54	28	11 (39.3%)	17 (60.7%)	0.274	0.652	0.278-1.438
55-68	11	5 (45.5%)	6 (54.5%)	0.256	0.491	0.144-1.677

Ethnicity						
Oromo	239	87(36.4%)	152(63.6%)		Reference	
Amhara	66	25(37.9%)	41(62.1%)	0.826	0.939	0.535-1.648
Gurage	19	4(21.1%)	15(78.9%)	0.187	2.146	0.691-6.671
Kaffa	26	7(26.9%)	19(73.1%)	0.340	1.554	0.628-3.843
Dawro	20	6(30%)	14(70%)	0.568	1.336	0.495-3.601
Yem	5	1(20%)	4(80%)	0.462	2.289	0.252-20.810
Other*	11	5(45.5%)	6(54.5%)	0.545	0.687	0.204-2.317
Religion						
Orthodox	97	27(27.8%)	70(72.2%)	0.067	1.620	0.967-2.715
Muslim	234	90(38.5%)	144(61.5%)		Reference	
Protestant	51	17(33.3%)	34(66.7%)	0.494	1.250	0.660-2.368
Other**	4	1(25%)	3(75%)	0.589	1.875	0.192-18.303
Frequency of worship						
frequently	170	77(45.3%)	93(54.7%)	0.001	0.471	0.305-0.727
Sometime	196	55(28.1%)	141(71.9%)		Reference	
Never	20	3(15%)	17(85%)	0.220	2.210	0.623-7.842
Marital status						
Single	179	60 (33.5%)	119 (66.5%)	0.749	1.073	0.697-1.652
Married	188	66 (35.1%)	122 (64.9%)		Reference	
Divorced	11	6 (54.5%)	5 (45.5%)	0.202	0.451	0.133-1.533
Separated/ widowed	8	3 (37.5%)	5 (62.5%)	0.890	0.902	0.209-3.892
Educational status						
Illiterate	50	24 (48%)	26 (52%)	0.103	0.589	0.312-1.112
Primary	176	62 (35.2%)	114 (64.8%)		Reference	
Secondary	96	32 (33.3%)	64 (66.7%)	0.754	1.088	0.643-1.839
tertiary	64	17 (26.6%)	47 (73.4%)	0.208	1.504	0.797-2.838
Occupation						
Unemployed	112	41 (36.6%)	71 (63.4%)		Reference	
Government	87	22(25.3%)	65 (74.7%)	0.090	1.706	0.920-3.164

employee						
Merchant	26	11 (42.3%)	15 (57.7%)	0.589	0.787	0.331-1.875
Farmer	97	43 (44.3%)	54 (55.7%)	0.257	0.725	0.416-1.264
Other***	64	18 (28.1%)	46 (71.9%)	0.253	1.476	0.758-2.875
Income						
167-541	96	34(35.4%)	62(64.6%)	0.057	1.706	0.984-2.958
542-1000	120	58(48.3%)	62(51.7%)		Reference	
1001-1888	75	25(33.3%)	50(66.7%)	0.040	1.871	1.028-3.405
1889-10000	95	18(18.9%)	77(81.1%)	<0.001	4.002	2.141-7.482

Other* includes Wolayita, Tigrae and Hadiya

Other**includes Catholic and Jehovah witness

Other*** includes wood workers, daily laborers, house wives and students

Table: 3 Binary logistic regression: - Association of relapse with psychotic diagnosis among patients with psychotic disorders attending services in JUSH, in 2013

variables	N	No relapse	Relapse	P-value	Crude OR	95% CI
Diagnosis						
Schizophrenia	280	124 (44.3%)	156 (55.7%)	0.001	0.280	0.135-0.577
Schizophreniform and schizoaffective	51	1(2%)	50(98%)	0.024	11.11	1.368-90.256
Brief psychotic	55	10 (18.2%)	45 (81.8%)		Reference	

Table: 4 Binary logistic regression: - Association of relapse with medication related factors among patients with psychotic disorders attending services in JUSH, in 2013

variables	N	No relapse	Relapse	P-value	Crude OR	95% CI
MARS						
Compliant	356	133 (37.4%)	223 (62.6%)		Reference	
Non compliant	30	2 (6.7%)	28 (93.3%)	0.004	8.350	1.958-35.615
AIMS						
Below mean	229	109 (47.6%)	120 (52.4%)		Reference	
Above mean	157	26 (16.6%)	131 (83.4%)	<0.001	4.577	2.792-7.503

Table: 5 Binary logistic regression: - Association of relapse with substance related factors among patients with psychotic disorders attending services in JUSH, in 2013

variables	N	No relapse	Relapse	P-value	Crude OR	95% CI
CAGE						
No problem	359	133 (37%)	226 (63%)		Reference	
Problem drinking	27	2 (7.4%)	25 (92.6%)	0.007	7.356	1.715-31.553
DAST						
No	213	105 (49.3%)	108 (50.7%)		Reference	
Low	33	13 (39.4%)	20 (60.6%)	0.292	1.496	0.708-3.161
Moderate	114	14 (12.3%)	100 (87.7%)	<0.001	6.944	3.734-12.00
Substantial	26	3 (11.5%)	23 (88.5%)	0.001	7.454	2.173-25.571

Table: 6 Binary logistic regression: - Association of relapse with social support, DUP, help seeking among patients with psychotic disorders attending services in JUSH, in 2013

variables	N	No relapse	Relapse	P-value	Crude OR	95% CI
Social support number						

score						
Low score	261	97 (37.2%)	164 (62.8%)		Reference	
High score	125	38 (30.4%)	87 (69.6%)	0.193	1.354	0.858-2.137
DUP						
Below mean	221	76 (34.4%)	145 (65.6%)		Reference	
Above mean	165	59 (35.8%)	106 (64.2%)	0.780	0.942	0.617-1.437
Traditional help seeking						
Yes	148	37 (25%)	111 (75%)	0.001	2.100	1.335-3.303
No	238	98 (41.2%)	140 (58.8%)		Reference	
Religious help seeking						
Yes	210	64 (30.5%)	146 (69.5%)		Reference	
No	176	71 (40.3%)	105 (59.7%)	0.043	0.648	0.426-0.987

Table: 7 Binary logistic regression: - Association of relapse with comorbidity among patients with psychotic disorders attending services in JUSH, in 2013

variables	N	No relapse	Relapse	P-value	Crude OR	95% CI
Comorbid psychiatric illness						
Yes	89	11 (12.4%)	78 (87.6%)	0.142	2.129	0.777-5.836
No	297	124 (41.8%)	173 (58.2%)		Reference	
Comorbid medical illness						
Yes	24	5 (20.8%)	19 (79.2%)	<0.001	5.083	2.595-9.953
No	362	130 (35.9%)	232 (64.1%)		Reference	

Table: 8 Multivariate logistic regression: - Association of relapse with other factors among patients with psychotic disorders attending services in JUSH, in 2013

variables	P-value	Adjusted OR	95% CI
Ethnicity			
Oromo		Reference	
Amhara	0.129	0.435	0.148-1.273
Gurage	0.253	3.230	0.432-24.170
Kaffa	0.854	0.862	0.178-4.180
Dawro	0.372	0.429	0.067-2.755
Yem	0.888	1.225	0.072-20.745
Other	**0.016**	0.065	0.007-0.602
Income			
167-541	**0.007**	3.213	1.376-7.505
542-1000			Reference
1001-1888	0.110	2.217	0.835-5.885
1889-10000	**0.003**	4.243	1.649-10.916
Diagnosis			
Schizophrenia	**0.002**	0.211	0.079-0.563
Schizophreniform and schizoaffective	**0.034**	13.388	1.213-147.789
Brief psychotic			Reference
MARS			
Compliant			Reference
Non-compliant	**0.034**	9.243	1.185-72.108
AIMS			
Below mean			Reference
Above mean	**<0.001**	15.373	6.581-35.911
DAST			
No problem			Reference
Low	**0.024**	0.113	0.017-0.749
Moderate	0.781	1.263	0.244-22.895

Chapter seven: Discussion

In this study more than 2/3rd of the study participants were identified to have relapse which was higher than study findings from Butajira Ethiopia, (54%) [20]. This difference could be due to the difference in the instrument (PANSS vs. CIDI) and the type of the study (hospital based study vs. community based cohort study). Also it was higher than studies reported from Canada (35.7%) and Hong Kong (48.1%) [15,19]. This difference could be due to the difference in the study type (cross-sectional vs. cohort) and in the socio-cultural differences.

But the result of this study was consistent with study done in Spain on non affective psychotic patients in which 65% of the participants had relapse at least once over the five year follow up [17].

In this study relapse was associated with ethnicity, income, low level khat abuse, medication side effect and non-compliance. Study done in South Africa showed that relapse was significantly associated with medication side effect and non-adherence to medication [25]. Also study done in Hong Kong showed that relapse was significantly associated with medication non-adherence and diagnosis [19]. The probability of having relapse among participants with monthly income of 167-541 ETH Birr was 3.2 times than participants whose their monthly income was 542-1000 ETH Birr. This could be due to patients with low income had difficulty in accessing health institution and prone to discontinuation of their medication. On the other hand the likely hood of having relapse among participants with monthly income of 1889-10000 ETH birr was 4.2 times higher than that of participants with monthly income of 542-1000 ETH Birr. This could be patients with more income had more able to access psycho active substances that may lead them to have relapse which may need further investigation.

As this study shows patients diagnosed as schizophrenia had 0.211 less relapse than those diagnosed as brief psychotic disorder. This result was not consistent with study done in USA [14]. The difference is due to the difference in the types of the study (cohort vs. cross-sectional) and the higher number of patients with schizophrenia used in this study. On the other hand patients with diagnosis of schizophreniform and schizoaffective had 13.4 times higher relapse than those with diagnosis of brief psychotic disorder.

In this study the likelihood of having relapse among patients who were non-compliant to their medication was 9.2 times higher than that of compliant patients. But similar study done in Norway reported that the probability of having relapse among non-compliant patients was 10.7 times higher than that of compliant patients [32]. However, according to study done in USA the possibility of developing relapse among patients who were discontinued their medication was 5 times higher than that of patients who didn't discontinued their medication [18]. The difference in the odds ratio could be due to socio cultural differences.

The probability of developing relapse among Patients with medication side effects was 15.4 times higher than that of patients free of medication side effects. A case control study done in India also showed a higher rate of medication side effect among relapse group [23]. In this study the prevalence of relapse among patients with medication side effects was 52.2% (n=131). But Indian study found prevalence of relapse among patients with medication side effects to be 37.5% (n=6) [23]. This difference could be due to difference in the instrument (AIMS vs. clinical interview) or the in availability of atypical anti-psychotic.

Also patients with low level of khat abuse are 98% less likely to develop relapse than those free of khat abuse. But according to this study 17.7% (n=67) and 44.8% (n=173) of the respondents drink alcohol and chew khat, respectively. 87.7% (n=25) of patients with problem drinking had relapse. And also 92.6% (n=100) patients with moderate level of khat abuse had relapse. This could be due to the availability of khat in the area and using of psychoactive substances to get relief of the symptoms of the illness and side effects but about relapse leading to substance use was not possible to identify. A study done in Ethiopia at Ammanuel hospital on patients with schizophrenia showed that alcohol and khat abuse were contributing factors for relapse of psychotic symptoms and re-hospitalization [36]. Another literature review on substance mis use and mental illness showed that alcohol use even with small amount was associated with increase symptomatology and rehospitalization [34]. Study done in Australia showed that substance mis use was significantly associated with relapse of positive symptoms [35].

In this study the prevalence of relapse among patients attended primary level of education was 45.42% (n=114). Study done in South Africa also showed that the relapsing patients were more likely to achieve primary level of education (30.6; n=41) [25]. The reasons could be the early onset of illness and decline in level of functioning associated with drop out of school.

Comorbidity of medical illness in this study on patients who had relapsed was 7.57% (n=19). In study done in South Africa on patients with schizophrenia showed that comorbid medical illnesses was 45.5% (n=6) [25]. This difference could be due the reason that in Ethiopia most of the time medical illnesses are not recognized or neglected in psychiatric patients and the difference in socio-economic status of the two countries.

With regard to the duration of untreated psychosis 42.23% (n=106) had long duration before treatment and relapse of psychotic illness. In this study DUP was not significantly associated with relapse. Study done in USA found that there is positive correlation between DUP and number of relapse [39].

In this study 62.15% (n=156) respondents with diagnosis of schizophrenia had relapse. This could be due to non-compliance. Study done in Hong Kong on first episode psychosis showed that the diagnosis schizophrenia was associated with increased risk of relapse [19].

In the social support score 261 of respondents had low score and out of them 65.34% (n=164) had relapse. Meta-analysis of risk factors for relapse showed that good social support was associated with less relapse [26, 27].

Even though different instruments like PANSS, MARS, AIMS, DAST-10, CAGE and SSQ-6 were used in this study, they were not validated in Ethiopian context. Respondents could have socially desirable responses or they may get bored of the questions and give random answers to some of the question that may affect the result. In case of social support detail interview could be more preferable to get detail and accurate information. Factors like expressed emotion, stigma related to the illness, the level of insight of patients and pre morbid functioning were not assessed in this study, even though their input is great. Lastly since the study is cross sectional, it was difficult to identify the cause and effect relationship.

Chapter eight: Conclusion and recommendation

8.1 Conclusion

In this study more than two third of the respondents had relapse. Income, low level of khat abuse, diagnosis, medication side effect and non-compliance for medication were independently associated factors with relapse of psychotic disorder. Non-compliance could be the result of side effects of anti-psychotics as indicated by a higher rate of relapse in those patients with side effects.

Generally, this study suggests that relapse of psychotic disorder is a burden to the patients and their families. Follow up of patients for development of side effects and monitoring their adherence to medication will reduce the possibility of developing psychotic relapse. Providing patients with counseling about medications and use of psycho active on regular basis will help patients to reduce frequency relapse. Even though the Ministry of health is trying to decentralize mental health services, some people living in remote area travel long distances to get the service. Sometimes due to shortage of money they are obliged to discontinue their follow ups. This indicates that accessing mental health services to every people at different socio-economic status. Also giving training for rural and urban health extension workers about mental health is helpful in minimizing the relapse rates.

8.2 Recommendation

Based on the findings outlined above we would like to recommend the following points. According to this study, patients with side effects of medication and non-compliant to their medication had higher relapses. So mental health professionals working in JUSH psychiatric clinic should consider gradual increase of antipsychotic medication doses to control the symptoms in order to avoid side effects of medications and they need to provide anticholinergic medication. The mental health professionals should also assess patients for early signs of relapse and regularly assess patients for side effects and adherence status. JUSH also should make atypical antipsychotics accessible regularly to all socio-economic status people. The clinic also needs regular program of psycho education and counseling about medication for the patients and their families. Since the antipsychotic medications available in Ethiopia are typical antipsychotics the rate of side effects are higher as well as the non-adherence rate. So the ministry of health of Ethiopia should arrange the regular availability of atypical antipsychotics.

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Annex I: Questionnaire

English version

Jimma University College of public health and medical Sciences School of Graduate Studies Department of psychiatry, Questionnaire for assessing prevalence and factors associated with relapse of psychotic disorders in JUSH, Jimma, Ethiopia

Consent Form

_____, I am here on behalf of Jimma University, College of Public Health and Medical Sciences, Department of psychiatry. Your honestly participation in filling questionnaires will provide us valid result and show us our real status and help to make intervention; hence we request to participate honestly. Your participation in filling the prepared questionnaires and every aspect of the study are completely voluntary. You may skip any question that you prefer not to answer, but we would appreciate your cooperation. You may also ask me to clarify questions if you don't understand them or can stop the interview at any time. Finally, all the information that you provide for the study is kept completely confidential. Your responses to our questions are identified only by number, never by name.

Do you agree to participate in this study?

1. Yes 2. No

Name of data collector……..

Signature…….. Date ……

Card number……..

Diagnosis ……

Part I Demographic and Socioeconomic Information

Serial no.	Questions	Response
1	Age of the patient in years	_____
2	Sex of the patient	1. Male 2. Female

3	Ethnicity	1. Oromo 2. Amhara 3. Gurage 4. Kaffa 5. Dawro 6. Other(specify)_____
4	Religion of the patient	1. Orthodox Christian 2. Muslim 3. Protestant 4. Catholic 5. Other(specify)_____
5	Frequency of going to worship place	1. Frequently 2. Sometimes 3. Never
6	Level of education	1. Illiterate 2. Primary 3. Secondary 4. Tertiary
7	Occupation	1. Unemployed 2. Employed 3. Other specify----------

8	Estimated monthly income in birr or if your income is from agriculture specify the types and its amount in quintal and bunch/bundle for chat	Per month _____ Per year _____
9	Marital status	1. Single 2. Married 3. Divorced 4. Separated 5. Widowed
10	Living arrangement?	1. Alone 2. With family 3. With relatives

Part II a PANSS

Rating 1= absent, 2=minimal, 3=mild, 4=moderate, 5=moderate severe, 6=severe, 7=extreme

Serial no.	**Positive symptoms**	1	2	3	4	5	6	7
1	Delusions							
2	Conceptual disorganisation							
3	Hallucinatory behavior							
4	Excitement							
5	Grandiosity							
6	Suspiciousness/persecution							
7	Hostility							

	Negative symptoms							
1	Blunted affect							
2	Emotional withdrawal							
3	Poor rapport							
4	Passive/apathetic social withdrawal							
5	Difficulty in abstract thinking							
6	Lack of spontaneity & flow of conversation							
7	Stereotyped thinking							
	General psychopathology							
1	Somatic concern							
2	Anxiety							
3	Guilt feelings							
4	Tension							
5	Mannerisms & posturing							
6	Depression							
7	Motor retardation							
8	Uncooperativeness							
9	Unusual thought content							
10	Disorientation							
11	Poor attention							
12	Lack of judgment & insight							
13	Disturbance of volition							

14	Poor impulse control							
15	Preoccupation							
16	Active social avoidance							

Part II b other questions on relapse

1.Do you have reoccurrence of your illness before coming symptom free for < 6 months?

1.Yes 2.No

2.If your answer for question number 1 was yes, how many times? ……

N: B please, revise the chart

Part III Medication adherence rate scale (MARS)

Serial no.	Question	Response
1	Do you ever forget to take your medication?	1. Yes 2. No
2	Are you careless at times about taking your medication?	1. Yes 2. No
3	When you feel better, do you sometimes stop taking your medication?	1. Yes 2. No
4	Sometimes if you feel worse when you take the medication, do you stop taking it?	1. Yes 2. No
5	I take my medication only when I am sick	1. Yes 2. No
6	It is unnatural for my mind and body to be controlled by medication	1. Yes 2. No
7	My thoughts are clearer on medication	1. Yes 2. No
8	By staying on medication, I can prevent getting sick.	1. Yes 2. No

9	I feel weird on medication	1. Yes 2. No
10	Medication makes me feel tired and sluggish	1. Yes 2. No

Part IV AIMS

This part will be performed by the data collector. Before the procedure the data collector should sit the patient in arm free chair. Ask the patient if he/she has something inside the mouth or current condition of the teeth. Rating 0=none, 1=minimal, 2=mild, 3=moderate, 4=severe

Please make a cross line on your rating,

Procedures (observe and rate abnormal Movements)	Rating				
	0	1	2	3	4
Observe the patient at sitting position (hand over knee)					
Observe the patient at sitting position (hands hanging unsupported)					
Observe the mouth and tongue (mouth opened)					
Observe the mouth and tongue (tongue protruded)					
Observe the face and legs (ask patient to tap thumb)					
Flex and extend for muscle tone rigidity					
Observe the whole body (standing position)					
Observe the whole body (extended					

arm and palm down)					
Observe the gait (walking)					

Part V DAST scale khat use

Serial no.	Question	Answer
1.	Have you used drugs other than those required for medical reasons?	1. yes 2. no
2.	Do you abuse more than one drug at a time?	1. yes 2. no
3.	Are you always able to stop using khat when you want to?	1. yes 2. no
4.	Have you had "blackouts" or "flashbacks" as a result of khat use?	1. yes 2. no
5.	Do you ever feel bad or guilty about your khat use?	1. yes 2. no
6.	Does your spouse (or parents) ever complain about your involvement with khat?	1. yes 2. no
7.	Have you neglected your family because of your use of khat?	1. yes 2. no
8.	Have you engaged in illegal activities in order to obtain khat?	1. yes 2. no
9.	Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking khat?	1. yes 2. no
10.	Have you had medical problems as a result of your khat use (e.g. memory loss, hepatitis, convulsions, bleeding, etc.)?..	1. yes 2. no
	Total score	

N:B if the total score is ≥ the patient needs further investigation and management with professionals.

Part VI CAGE scale for alcohol

Serial no.	Question	Answer
1.	Do you drink alcohol?	1. yes 2. no
1.1	If your answer is yes for question number 1 please answer the following questions.	

2.	Have you ever felt you should cut down on your drinking?	1. yes 2. no
3.	Have people annoyed you by criticizing your drinking?	1. yes 2. no
4.	Have you ever felt bad or guilty about your drinking?	1. yes 2. no
5.	Have you ever had a drink first thing in the morning or to get rid of a hangover?	1. yes 2. no

Part VII SOCIAL SUPPORT SCALE

1.Whom can you really count on dependable when you need help?

No one 1) 4) 7)

2) 5) 8)

3) 6) 9)

2.How satisfied?

1)very satisfied 2)fairly satisfied 3)a little satisfied 4)a little dissatisfied 5)fairly dissatisfied 6)very dissatisfied

3. Whom can you really count on to help you more relaxed when you are under pressure or tense?

No one 1) 4) 7)

2) 5) 8)

3) 6) 9)

4. How satisfied?

1)very satisfied 2)fairly satisfied 3)a little satisfied 4)a little dissatisfied 5)fairly dissatisfied 6)very dissatisfied

5. who accepts you totally, including both your worst and best points?

No one 1) 4) 7)

2) 5) 8)

3) 6) 9)

6. How satisfied?

1)very satisfied 2)fairly satisfied 3)a little satisfied 4)a little dissatisfied 5)fairly dissatisfied 6)very dissatisfied

7.whom can you really count on to care about you, regardless of what is happening to you?

No one 1) 4) 7)

2) 5) 8)

3) 6) 9)

8. How satisfied?

1)very satisfied 2)fairly satisfied 3)a little satisfied 4)a little dissatisfied 5)fairly dissatisfied 6)very dissatisfied

9. whom can you really count on to help you feel better when you are feeling generally down in the dump?

No one 1) 4) 7)

2) 5) 8)

3) 6) 9)

10. How satisfied?

1)very satisfied 2)fairly satisfied 3)a little satisfied 4)a little dissatisfied 5)fairly dissatisfied 6)very dissatisfied

11. whom can you count on to console you when you are upset?

No one 1) 4) 7)

2) 5) 8)

3) 6) 9)

12. How satisfied?

1)very satisfied 2)fairly satisfied 3)a little satisfied 4)a little dissatisfied 5)fairly dissatisfied 6)very dissatisfied

Part VIII DUP

1. For how long have you stayed without modern treatment after the onset of the illness?
   ……years
2. What type of help seeking methods do you use before modern treatment?
   1. Traditional
   2. Religious
   3. Others, specify

Part IX Comorbidity

1. Commorbid medical illness…….
2. Comorbid psychiatric illness……

Amharic version

በአማርኛየተዘጋጀመጠይቅ

ጅማ ዩንቨርስቲ ህብረተሰብጤናና ሕክምና ሳይንስ ኮሌጅ የአእምሮ ህክምና ክፍል

<u>የጥናቱን አላማ በመረዳት እና በፍቃደኝነት ላይ የተመሰረተየስምምነትዉል</u>

ሰላምታ

ስሜ_____ይባላል::እኔእዚህአየሰራሁያለሁት በከባድ አእምሮ ህመም ማገርሸት እና በተዛማጅ ጉዳዮች ዙሪያ ጥናት ለማካሄድ መረጃ በማሳባሰብላይእገኛለሁ:በመሆኑምየእርስዎተሳትፎወሳኝበመሆኑእርስዎንመሰልከሆኑሰዎችጋርተመርጠዋል;;ስለዚህከእርስዎጋርቃለመጠየቅማድረግእፈልጋለሁ::የቃለምልልሱአላማከላይየገለፅኩልዎት(----------
ሲሆንሰዎችለመጠጥበመጋለጣቸዉምክንያትለሚደርስባቸዉችግሮቸመፍትሄለማፈላለግቃለመጠይቁትልቅሚናይጫዎታልብለንእናምናለ ንስለዚህእርስዎየሚሰጡንትክክለኛመረጃለምንፈልገዉመፍትሄአየነተኛጠቀሜታአለዉብለንከፍተኛግምትሰጥተነዋል;; ለሚሰጡን መረጃ ስምዎት እና ማንነትዎ አይገለፅም;;

ጥያቄካለዎትይጠይቁኝ_____

አሁንበጥናቱእንድሳተፉጋብዘዎታለሁ:; በአንጻሩላለመሳተፉከፈለጉ/ከወሰኑመብትዎየተጠበቀነዉ::

ለመሳተፍፍቃደኛነዎት?

አዎ _____ ቃለመጠይቅይቀጥላል

አይደለም_____ጥያቄዉንበማቆምአመስግነዉያሰነበቱ::

ቀን_____/_____/_____

የጠያቂዉስምናፊርማ_____
_____

የተቆጣጣሪዉስምናፊርማ_____
_____

የህመሙ ስም…….

ክፍል I Socioeconomic and Demographic Information

ተራቁ.	ጥያቄ	መልስ
1	የጤናተቋሙስም	_____
2	ቀን	_____
3	ካርድቁጥር	_____
4	ዕድሜ (በዓመት)	_____
5	ፆታ	1.ወንድ 2.ሴት

6	ብሄር	1. ኦሮሞ 2. አማራ 3. ጉራጌ 4. ከፋ 5. ዳዉሮ 6. ሌላ ካለ ይጥቀሱ ----------
7	ሐይማኖት	1. ኦርቶዶክስ 2. ሙስልም 3. ፕሮተስታንት 4. ካቶሊክ 5. ሌላ ካለ ይጥቀሱ----------
8	በየስንትጊዜ የማምለክያቦታይሄዳሉ?	1. ብዙጊዜእሄዳለው 2. አንዳንዴእሄዳለው 3. ሄጄአላዉቅም
9	የትምህርትደረጃ	1. መንበብናመጻፍየማይችል 2. የመጀመርያደረጃ 3. ሁለተኛደረጃ 4. ኮሌጅ/ዩኒቨርስቲ
10	ሥራ	1. ስራየለዉም/ላትም 2. የመንግስትሰራተኛ 3. ሌላካለይግለፁ --------
11	አማካይወርሀዊ ገቢዎ ምን ያህልነዉ /በብርወይምበግብርናየሚተዳደሩከሆነበአመትየሚያመ ርትዋቸውንምርቶችአየነትእናመጠንይግለፅ; ለምሳሌ፤ቡናጤፍበቀሎቡናባቄላበርበሬበኩንታልጫት (በእስር)	በወር---------- በአመት_____

12	የጋብቻሁኔታ	1. ያላገባ/ች 2. ያገባ/ች 3. የፈታ/ች 4. የተለያየበታየሚኖሩ 5. ባሏየሞተባት/ ሚስቱየሞተችበት
13	ከማንጋርነውየምትኖረው/ሪው?	1. ለብቻዬ 2. ከቤተሰቦቼጋር 3. ከዘመድ /ከጓደኛጋር

ክፍል II ሀ PANSS scale

ምዘና 1= የለም, 2=አነስተኛ, 3=መጠነኛ, 4=መካከለኛ, 5=ከፍተኛ, 6=በጣም ከፍተኛ, 7=እጅግ በጣም ከፍተኛ

ተራ ቁ.	**Positive symptoms**	1	2	3	4	5	6	7
1	በእውነተኛ ማስረጃ ማሳመን የማይቻል አስተሳሰብ(ዴሉዥን)							
2	የአስተሳሰብ/ የንግግር መዘበራረቅ(ዲስኦርጋናይዜሽን)							
3	ሰው ሳይኖር እንደሰው የሚያወራ/ የሚታይ ምስል							
4	የአካል እንቅስቃሴ እና የስሜት ከፍተኛ መሆን							
5	እራስን ከፍከፍ ማድረግ							
6	ተጠራጣሪ መሆን							
7	ሀይለኛነት/ቁጡ መሆን							
	Negative symptoms							
1	ዝቅተኛ የሆነ የፊት ገጽታ መቀያየር							
2	ዝቅተኛ የሆነ የስሜት መግለጽ							

3	ከጠያቂው ጋር ዝቅተኛ የሆነ ቃለ ምልልስ ማድረግ							
4	ለማህበራዊ ግንኙነት ዝቅተኛ የሆነ ፍላጎት							
5	ውስብስብ ሀሳቦችን የመረዳት ችሎታ ማነስ							
6	ንግግሩ የሀሳብ ፍሰትን ያልጠበቀ							
7	ግብ የሌለው አስተሳሰብ							
	General psychopathology							
1	የሰውነት አካል ህመምስሜት							
2	ጭንቀት							
3	የጥፋተኛነት ስሜት							
4	የውጥረት ስሜት							
5	አስቸጋሪ በሆነ የሰውነት አቀመቀመጥ ለረጅም ጊዜ መቆየት/ ተደጋጋሚ አይነት እንቅስቃሴ ማድረግ							
6	ድብርት							
7	የሰውነት መዛል							
8	አለመታዘዝ							
9	ያልተለመደ አስተሳሰብ							
10	ስለ ቦታ/ስለ ሰዓት አለመረዳት							
11	የሀሳብ አለመሰብሰብ							
12	ስለ ህመሙ አለመረዳት እና አለማገናዘብ							
13	አለመነቃቃት							
14	አለማገናዘብ							
15	በሀሳብ መዋጥ							
16	እራስን ከማህበራዊ ግንኙነት ማግለል							

ክፍል

1.ከዚህ በፊት ከህመምዎ ጤነኛ ሆነው 6 ወር ሳይሞላዎት እንደገና አገርሽትዎቦት ያውቃልን?

1. አዎ 2.አይደለም

2. ለጥያቄ ቁጥር 1 መልስዎ አዎን ከሆነ ለስንት ጊዜ አገረሽቦት?……

ማስታወሻ፡ እባክዎን ከካርዱን ያመሳክሩ

ክፍል III Medication Adherence Rating Scale(MARS)

ተራ ቁ.	ጥያቄ	መልስ
1	መድሃኒት መውሰድ ትረሳለህ/ሽ	1. አዎ 2. አይደለም
2	አንዳንዴ በግዴለሽነት መድሃኒት ሳትወስድ ትቀራለህ/ሽ	1. አዎ 2. አይደለም
3	አንዳንዴ ጤንነት ሲሰማህ/ሽ መድሃኒት መውሰድ ታቋርጣለህ/ሽ	1. አዎ 2. አይደለም
4	መድሃኒት ስትወስድ/ጂ ህመምህ/ሽ ከተባባሰ መድሃኒት መውሰድ ታቋርጣለህ/ሽ	1. አዎ 2. አይደለም
5	መድሃኒት ምትወስደው/ጂው ህመም ሲሰማህ/ሽ ብቻ ነው	1. አዎ 2. አይደለም
6	መድሃኒቱ በተፈጥሮአዊ ሰውነቴን እና አእምሮዬን ሁኔታ ይቆጣጠራል ብዬ አላስብም	1. አዎ 2. አይደለም
7	መድሃኒት ስወስድ አስተሳሰቤ ትክክል ይሆናል	1. አዎ 2. አይደለም
8	መድሃኒት በመውሰዴ ጤንነቴን እጠብቃለሁ	1. አዎ 2. አይደለም
9	መድሃኒት ስወስድ ግራ የሚያጋባ ስሜት ይሰማኛል	2. አዎ 3. አይደለም
10	መድሃኒት ስወስድ የድካም ስሜት ይሰማኛል	1. አዎ 2. አይደለም

ክፍል IV AIMS

ይህ የመጠይቅ ክፍል በጠያቂው የሚሞላ ነው። ከዛ በማስቀደም ግን ህመምተኛው መደገፊ በሌለው ወንበር መቀመጥ አለበት እና በአፉ/ሷ ውስጥ የያዘችው ነገር ካለ ወይም የጥርሱ/ሷ ጤንነት ሁኔታ መጣራት አለበት። ምዘና 0(ምንም) 1(ዝቅተኛ) 2(መጠነኛ) 3(መካከለኛ) 4(ከፍተኛ)

አሰራር	ምዘና

	0	1	2	3	4
ህመምተኛውን በተቀመጠበት ተመልከት(እጅ በጉልበት ላይ ተደርጎ)					
ህመምተኛውን በተቀመጠበት ተመልከት(እጅ ሳየደገፍ)					
የህመምተኛውን አፍ እና ምላስተመልከት(አፍ ተከፍቶ)					
የህመምተኛውን አፍ እና ምላስተመልከት(ምላስ በማውጣት)					
የህመምተኛውን ፊት እና እግሮች ተመልከት (ህመምተኛው አውራጣቱን በሌሎቹ በተራ አንዲነካ ማድረግ)					
እጅ በመዘርጋት እና በማጠፍ የጡንቻ መጠንከር ካለ አረግገጥ					
ህመምተኛው ቆሞ መላ ሰውነቱን ተመልከት					
ህመምተኛው ቆሞ መላ ሰውነቱን ተመልከት(እጅ ተዘርግቶ እና መዳፍ ወደታች ተገልብጦ)					
የህመምተኛውን አረማመድ ተመልከት					

ክፍል V DAST scale khat use

ተራ ቁ.	ጥያቄ	መልስ
1.	ለህክምና አላማ ከሚያገለግሉ ውጪ ዕጾች ተጠቅመህ/ሽ ታውቃለህ/ሽ?	1. አዎ 2. አይደለም
2.	ከአንድ በላይ ዕጾች ተጠቅመህ ታውቃለህ/ሽ?	1. አዎ 2. አይደለም
3.	በማንኛውም ጊዜ ጫት መውሰድማቆም ትችላለህ/ሽ?	1. አዎ 2. አይደለም
4.	ጫት ከወሰድክ/ሽ በኃላ የመርሳት/ እንደህልም በድጋሚ ማስታወስ ተከስቶብህ/ሽ ያውቃልን?	1. አዎ 2. አይደለም
5.	ጫት በመውሰድህ የጥፋተኛነት ስሜት ተሰምቶህ/ሽ ያውቃልን?	1. አዎ 2. አይደለም

6.	የትዳር አጋርህ/ሽ (ቤተሰብህ/ሽ) ስለ ጫት አወሳሰድህሽ አውርተው ያውቃሉን?	1. አዎ 2. አይደለም
7.	ጫትበመውሰድህ/ሽ በ ቤተሰብህ/ሽ ጉዳይላይ ግድ የለሽ ሆነሃል/ሻል?	1. አዎ 2. አይደለም
8.	ጫት ለማግኘት ብለህ/ሽ ህግ ጥሰህ/ሽ ታውቃለህን?	1. አዎ 2. አይደለም
9.	ጫት መውሰድ ስታቆም/ሚ የህመም ስሜት ተሰምቶህ/ሽ ያውቃልን?	1. አዎ 2. አይደለም
10.	ጫት በመውሰድህ/ሽ የጤና መታወክ አጋጥመሞህሽ ያውቃልን?..	1. አዎ 2. አይደለም
	አጠቃላይ ድምር	

ማስታወሻ፡ አጠቃላይ ድምሩ ≥ 3 ከሆነ ህመምተኛው ቀጣይ ምርመራና የባለሙያ እርዳታ ያስፈልገዋል።

ክፍል VI CAGE scale for alcohol

ተራ ቁ.	ጥያቄ	መልስ
1.	የአልኮል መጠጥ ይጠጣሉ ወይ?	1.አዎ 2.አይደለም
1.1	ለጥያቄ ቁጥር 1 መልስዎ አዎን ከሆነ እባክዎን የሚከተሉትን ጥያቄዎች ይመልሱ?	
2.	መጠጥ መጠጣት ማቆም አለብኝ ብለህ/ሽ አስበህ/ሽ ታውቃለህሽ?	1. አዎ 2. አይደለም
2.	ሰዎች መጠጥ ስለመጠጣትህ/ሽ እየተናገሩ አበሳጭተውህ/ሽ ያውቃሉ?	1. አዎ 2. አይደለም
3.	መጠጥ ስለመጠጣትህ/ሽ የጥፋተኛነት ስሜት ተሰምቶህ/ሽ ያውቃል?	1. አዎ 2. አይደለም
4.	በጠዋት እንደተነሳህ/ሽ መጠጥ ጠጥተህ/ሽ ታውቃለህ ?	1. አዎ 2. አይደለም

ክፍል VII SOCIAL SUPPORT SCALE

1.እርዳታ ባስፈለገህ ጊዜ በማን ላይ ነው ምትደገፈው?

የለም 1) 4) 7)

2) 5) 8)

3) 6) 9)

2.ምን ያህል የውስጥ እርካታ ይሰማሃል ?

1)በጣም እርካታ ይሰማሃል 2)መጠነኛ እርካታ ይሰማሃል 3)አነስተኛ እርካታ ይሰማሃል 4)አነስተኛ ቅሬታ ይሰማኛል5)መጠነኛ ቅሬታ ይሰማኛል 6)በጣም ቅሬታ ይሰማኛል

3.በጨነቀህ ጊዜ እንዲያረጋጋህ እና እንዲረዳህ የምትፈልገው ማንን ነው?

የለም 1) 4) 7)

2) 5) 8)

3) 6) 9)

4.ምን ያህል የውስጥ እርካታ ይሰማሃል ?

1)በጣም እርካታ ይሰማሃል 2)መጠነኛ እርካታ ይሰማሃል 3)አነስተኛ እርካታ ይሰማሃል 4)አነስተኛ ቅሬታ ይሰማኛል5)መጠነኛ ቅሬታ ይሰማኛል 6)በጣም ቅሬታ ይሰማኛል

5.መጥፎም ሆነ በጎ ብታደርግ የሚቀበልህ ማን ነው?

የለም 1) 4) 7)

2) 5) 8)

3) 6) 9)

6 .ምን ያህል የውስጥ እርካታ ይሰማሃል ?

1)በጣም እርካታ ይሰማሃል 2)መጠነኛ እርካታ ይሰማሃል 3)አነስተኛ እርካታ ይሰማሃል 4)አነስተኛ ቅሬታ ይሰማኛል5)መጠነኛ ቅሬታ ይሰማኛል 6)በጣም ቅሬታ ይሰማኛል

7.በምንም አይነት ሁኔታ ብትሆን እንዲረዳህ ምትፈልገውማንን ነው ?

የለም 1) 4) 7)

2) 5) 8)

3) 6) 9)

8.ምን ያህል የውስጥ እርካታ ይሰማሃል ?

1)በጣም እርካታ ይሰማሃል 2)መጠነኛ እርካታ ይሰማሃል 3)አነስተኛ እርካታ ይሰማሃል 4)አነስተኛ ቅሬታ ይሰማኛል5)መጠነኛ ቅሬታ ይሰማኛል 6)በጣም ቅሬታ ይሰማኛል

9. ሀዘን በተሰማህ ጊዜ ቀለል ብሎ እንዲሰማህ እና እነዲረዳህ የምትፈልገው ማንን ነው?

የለም 1) 4) 7)

2) 5) 8)

3) 6) 9)

10.ምን ያህል የውስጥ እርካታ ይሰማሃል ?

1)በጣም እርካታ ይሰማሃል 2)መጠነኛ እርካታ ይሰማሃል 3)አነስተኛ እርካታ ይሰማሃል 4)አነስተኛ ቅሬታ ይሰማኛል5)መጠነኛ ቅሬታ ይሰማኛል 6)በጣም ቅሬታ ይሰማኛል

11. በተበሳጨህ ጊዜ እንያረጋጋህ የምትፈልገው ማንን ነው?

የለም 1) 4) 7)

2) 5) 8)

3) 6) 9)

12. .ምን ያህል የውስጥ እርካታ ይሰማሃል ?

1)በጣም እርካታ ይሰማሃል 2)መጠነኛ እርካታ ይሰማሃል 3)አነስተኛ እርካታ ይሰማሃል 4)አነስተኛ ቅሬታ ይሰማኛል5)መጠነኛ ቅሬታ ይሰማኛል 6)በጣም ቅሬታ ይሰማኛል

ክፍል VIII DUP

1. ህመሙ ከተነሳበት ጊዜ ጀምሮ የዘመናዊ ህክምና ሳታግኝ/ኚ ምን ያህልጊዜ ቆየህ/ሽ?.....ዓመት
2. ከዘመናዊ ህክምና በፊት እንደ ህክምና የተጠቀምከው/ሽው የትኛውን ነው?

1) ባህላዊ
2) ሀይማኖታዊ
3) ሌላ ካለ ግለጽ.....

ክፍል IX ተጓዳኝ ህመም

1. ተጓዳኝ የውስጥ ደዌ ህመም ካለ.....
2. ተጓዳኝ የአእምሮ ህመም ካለ.....