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Level of Perceived Social Support and Associated Factors Among People With Schizophrenia Attending Out Patient Department At Amanuel Mental Specialized Hospital, Addis Ababa, Ethiopia 2017

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Abstract

Background: Schizophrenia is a brain disorder which affects the way a person acts, thinks, and sees the world and causes difficulties in socializing with others creates a feeling of inability or inadequacy. Social support has an impact on mental and physical health throughout the life span. Lower social support has been associated with poor treatment outcomes. Poor social function has been found to increase admission rates. but in this study setting there is no evidence which shows the level of perceived social support and associated factors among people with schizophrenia.

Objective: The aim of this study is to assess Level of perceived social support and associated factors among peoples with Schizophrenia at Amanuel mental specialized hospital, Addis Ababa, 2017.

Method: An institutional based cross sectional study was conducted from May -to June -2017. Systematic random sampling technique was used to select study participants. Structured questionnaire with systematic random sampling approach followed by face to face interview technique were used. Epic-info version 7 and SPSS version 20 software were used for data entry and analysis respectively. Descriptive statistics were employed to describe the data. Data were fitted with bivariate and multivariate Ordinal logistic regression. Statistical significance were declared 95% confidence interval and P value <0.05.

Results: A total of 410 study participants were participated. The study showed that; low perceived social support, medium perceived social support and high perceived social support account for 21.5%, 58.5% and 20% respectively. Poor medication adherence (AOR=3.61(95% CI; 2.10, 6.18), greater than 3 hospital admission (AOR=0.46(95% CI; 0.27, 0.79), primary (AOR=0.45(95%CI; 0.24, 0.82) and secondary level of education (AOR=0.53(95%CI; 0.31, 0.91) were found to be statistically significant associated with the outcome.

Conclusion and Recommendation: This study showed that people with schizophrenia have lower and medium perceived social support. Health care providers should screen all schizophrenic patients for their medication adherence on a regular basis.

Keywords: Perceived social support; Schizophrenia; People with Schizophrenia

Abbreviations

A.A=Addis Ababa; AOR=Adjusted Odd Ratio; AMSH=Amanuel Mental Specialized Hospital; COR=Crude Odd Ratio; EPI-INFO=Epidemiological Information; MARS=Medication Adherence Rating Scale; MSPSS = Multidimensional Scale of Perceived Social Support; OR=Odds Ratio; SD=Standard Deviation;SPSS= Statistical Package for Social Science.

Background

Statement of the problem

Social support is defined as a fundamental form of human interaction central to the human experience. At various times in peoples' lives, individuals either seek or provide support. Social support includes interpersonal communication and interaction, love and understanding, caring and concern, affection and companionship, financial assistance, and respect and acceptance. Social support has an impact on mental and physical health throughout the life span and may be especially important later in life [1].

Perceived social support refers to the perception that the person is cared for, is valued, and is part of a group. The exchange of supportive behaviours is not sufficient in itself to improve the recipient's emotional

well-being. He or she has to feel supported [2]. Schizophrenia is a brain disorder which affects the way a person acts, thinks, and sees the world. People with schizophrenia have an altered perception of reality and often a significant loss of contact with reality. Schizophrenia is a relatively common disorder, with a lifetime prevalence of about 1% [3,4].

The family's attitudes toward their schizophrenic family member may have a significant impact on the patient's social adjustment and their achievement of affective goals [3]. A research done in Australia, to assess perceived social support in schizophrenia suggested that perceived support account for nearly 20% [5]. Lower social support has

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been associated with poor treatment outcomes whereas quality of life has shown significant relation with social support in schizophrenia [6].

People with schizophrenia have been found to have fewer numbers of friends and narrower social networks compared to the general population. The secondary effects of schizophrenia, including loss of social role and networks, unemployment, lack of stable housing, financial problems and stigma, also have a negative impact on relationship functioning and lead to social isolation. Significantly more men (53.1%) than women (26.8%) had no friends [7,8]. People with schizophrenia are likely to have more difficulty than the rest of the community in the areas of their social supports, activities of daily living, and recreational activities [8]. Schizophrenia is a severe form of mental illness causing adverse functional, behavioural, and social deficits in those affected. Patients' social support is considered to be a critical factor in the prognosis of schizophrenia [9]. The social network predicts a long term outcome for schizophrenics, social relationship accounts for 8% [10]. Family burden was found to be significantly related to patients' disability and unemployment [11].

Factors associated with level of perceived social support

A study conducted in Canada suggested that, the influence of perceived social support on medication adherence and schizophrenia is possible that the relation between Perceived social support and outcome is, at least partly, mediated through the effect of family support on adherence to medication. The degree and quality of support may play an even more important role in influencing behavior among younger age groups who generally are either living with, or have regular, close contact with, family and other caregivers. Social support, especially family support, has been shown to influence adherence to social support was significantly correlated with concurrent adherence. Those

who has good perceived social support had good medication adherence which accounts for 88.5% [12].

Other study conducted in USA shows that optimal adherence to medication occurs in 60 percent of schizophrenia patients in relation to perceived social support [13]. Another study conducted in USA showed that, other determinants like lack of perceived social support leads to noncompliance at taking oral and depot medications reported 55 % those with schizophrenia [14]. A study done in Israel showed that social support in schizophrenia accounts for 8.9% and Poor perceived social support has been found to increase admission rates [15]. Substance use in people with schizophrenia is more common than in the general population, and is associated with poor clinical and social outcomes (Figure 1) [16]. As far as my knowledge is concerned, little is done in Africa and there is no study done in Ethiopia. Hence, the aim of this study is to assess perceived social support and associated factors among schizophrenia patients.

Significance of the Study

Lack of perceived social support has many adverse consequences such as influencing the onset and course of schizophrenia; exacerbate schizophrenia outcomes such as high relapse rate, poor medication adherence and impairment in social functioning.

Lack of perceived social support results in patients with schizophrenia become dependent, reduced activity, productivity, decreased relationship and affect quality of life. Poor social function has been increase admission rates; as well as it leads to increased mortality in patients with schizophrenia. Patients with schizophrenia are over presented with lack of Perceived social support. The prevalence and risk

Annex Conceptual Frame Work

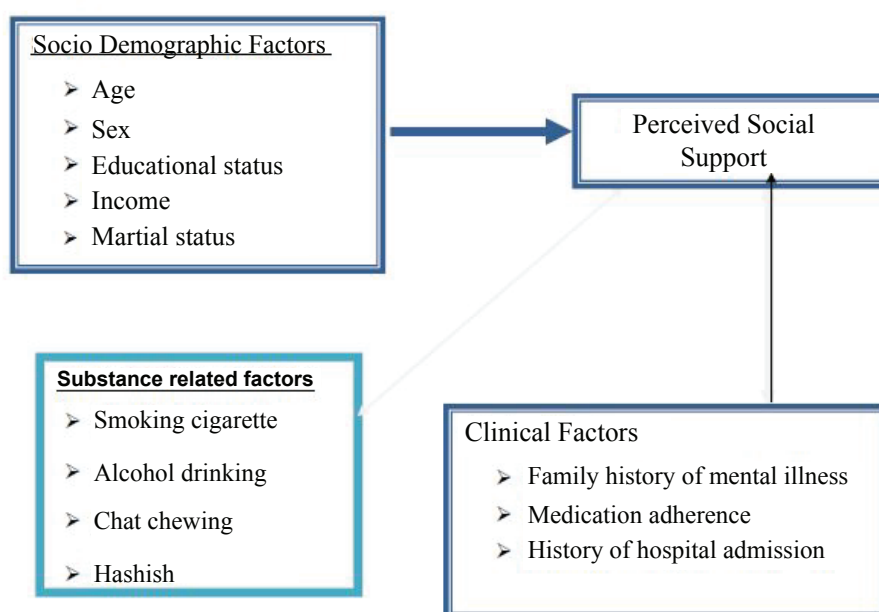


Figure 1: Conceptual Frame Work for Level of perceived social support and associated Factors among people with Schizophrenia.

factors of perceived social support in schizophrenia are not well known, especially in low and middle income countries including Ethiopia.

As far as my knowledge is concerned, there is no study conducted in Ethiopia to address this problem. The information gathered from this data might provide as a reference to a larger scale studies and identifying the prevalence of the problem and factors related to the problem helps for designing intervention programs.

Objectives

General objective: Assess level of perceived social support and associated factors among schizophrenia patients attending outpatient in Amanuel mental specialized hospital, Addis Ababa, 2017.

Specific objectives

- To determine Level of perceived social support among patients with schizophrenia in Amanuel mental specialized hospital, Addis Ababa, 2017.
- To identify factors associated with perceived social support among patients with schizophrenia in Amanuel mental specialized hospital, Addis Ababa, 2017.

Methods

Study design and period

Institution based cross sectional study was conducted from May, 27 to June, 27, 2017.

Study setting: This study was conducted at Amanuel mental specialized hospital in Addis Ababa. It is one of the oldest hospitals established in 1937 during the Ethio-Italian war and it is the only mental hospital in Ethiopia. In the hospital the health service had been given by lower level psychiatric professionals up to 1947. Starting from 1953-1977 the treatment was given by doctors came from Russia, Bulgaria, and Cuba. It is located in western part of Addis Ababa in Addis Ketema sub-city, kebele 08. On average 53,410 people with schizophrenia are seen at outpatients department each year. The hospital has 235 inpatient beds that serve for all type of mental disorders including schizophrenia. The hospital has also 14 outpatient departments [17].

Source population: All patients who were clinically diagnosed as schizophrenia at Amanuel mental specialized hospital.

Study population: All schizophrenia patients who were attending the outpatient department at Amanuel mental specialized hospital during the study period.

Inclusion and exclusion criteria

Inclusion criteria: Patients who were clinically diagnosed as schizophrenia in the outpatient department of Amanuel mental specialized hospital, age 18 years and above and participants who had follow up greater than 6 months were included in the study.

Exclusion criteria: Patients who are acutely disturbed and unable to communicate were excluded.

Sample Size determination and sampling technique

sample size determination

$$n = \frac{\left(Z \frac{\alpha}{2}\right)^2 p(1-p)}{d^2}$$

Where ;

n=sample size, $\left(Z \frac{\alpha}{2}\right)$ = significance level at $\alpha = 0.05$

P=expected proportion of schizophrenia patients who have perceived social support to be 50%, d=margin of error=0.05. Therefore, $n = \frac{(1.96)^2 0.5(1-0.5)}{0.05^2} = 384$, Considering the sample size 10% of non-respondent rate, the final sample size was $384+39=423$.

Sampling technique and procedure: A systematic random sampling technique was employed for the selection of the study units. 4451 patients were seen monthly then those patients who are seen monthly was divided by the sample size Therefore; Individuals were chosen at regular intervals (every 10th).

Study variables

Dependent variables, Perceived social support (high, medium, low), Independent variables: Socio demographic factors: Age, Sex, Educational level, marital status, Residency. Clinical factors:- Family history of mental illness, Medication adherence, History of hospital admission. Substance related factors:- Substance use

Operational definition: Perceived social support-is defined as High perceived social support was considered as ≥ 47.3 , Medium perceived social support was considered as (46.3-20.5), Low perceived social support was considered as ≤ 21.5 .

Medication adherence is defined as by Medication Adherence Rating Scale (MARS), it is a scale containing 10 item yes/no response, A MARS score equal to 3 or above indicates good adherence [18].

Substance use defined as use of the specified substance (tobacco, alcohol, chat, Hashish) for life time.

Data Collection Tools

The data was collected by using semi structured questionnaire. Both chart review and structured interview were used to collect information from the study subject. Social support was assessed by Multidimensional scale of perceived social support. It is social support screening instrument with 12 items and assess the level and severity of social support. The original version of the MSPSS is a 12-item scale with 7 possible responses to each statement (scored 1-7) giving a score out of a maximum of 84 with higher score indicating greater perceived social support.

The MSPSS was developed in the USA by Zimet with a different cultural perspective. The adequacy of the use of the questionnaire in a culturally appropriate way in Uganda to guarantee the reliability and validity. The original English version of the MSPSS had a 7 point Likert scale that ranged from 1- of very strongly disagree, 2- strongly disagree, 3- mildly disagree, 4-neutral, 5- mildly agree, 6- strongly agree to 7- very strongly agree [19].

These were appearing too many and would be difficult to respond from 1-7 and by assuming of this it was used the adopted scale, it was merged to a 5 point Likert scale that ranged from 1- of strongly disagree, 2- mildly disagree, 3- neutral, 4- mildly agree to 5- strongly agree. In order to further help participants understand the responses, it was reduced in to 5 point likert scale. The adopted version of MSPSS in Uganda setting produces good reliability with (Cronbach's $\alpha=0.83$) [20].

Medication adherence was measured by using a modified version of the Medication adherence rating scale (MARS), which is a 10-item

self-report scale. The items are answerable by a yes/no response, with corresponding 0 and 1 value, respectively. AMARS score equal to 3 or above indicates adherence, and non-adherence is defined as scores less than or equal to 2 [18].

Data collectors selection and training: The data was collected by interviewing the selected schizophrenia patients attending outpatient department in Amanuel mental specialized hospital. Two B. sc. nurses and five psychiatry nurses were used for data collection. One supervisor who has bachelor degree in public health and the principal investigator were participated in the data collectors' supervision. Before the data collection, one and half day training was given for the data collectors and supervisors by the principal investigator. The role and communication of supervisor to data collectors were thoroughly explained.

Data quality assurance: The questionnaire was prepared in English and it was translated in to local language for easiness in interviewing the study participants. Then it will again translated back to English to check the consistency of meaning. Translation of questionnaire was done by the involvement of language experts. The data was collected by trained psychiatry nurses. They were collected the data by interviewing patients. Also they were approach and interviewed the selected respondents after written informed consent was obtained.

Training was given for data collectors on how to collect the data. The data collection methods, tools and how to handle ethical issues were discussed with the data collectors. Pretest was conducted before the actual data to identify potential problems in data collection tools and to check the performance of the data collectors and questionnaires used in the pre-test were not included in the analysis as part of the main study. Regular supervision by the supervisor and principal investigator was made to ensure that all necessary data are properly collected. Each day during data collection, filled questioners was checked for completeness and consistency. The collected data was edited and processed timely and enter from a paper into computer.

Data processing and analysis: Data was checked, coded, cleaned and entered to Epi-Info version 7 and exported to SPSS version 20 for analyses. Descriptive statistics such as numbers, frequencies, percentage and mean with standard deviation were used. Tables and graphs were used to report the results. Ordinal logistic regression analysis was used to examine association between dependent and independent variables. All variables with $p < 0.2$ in bivariate analysis were further analysed by multivariate analysis using ordinal logistic regression. The association was determined using Odds ratio and 95% confidence interval. $P < 0.05$ during multivariate analysis was declared as statistically significant in this study.

A bivariate and multivariate analysis was conducted to explore the relationships between the independent variables. All the independent variables were introduced simultaneously in multivariate analysis. First included all the independent variables. Second, dummy variables were added to check for their association with perceived social support then entered multiple independent variables; the presence of multicollinearity was assessed by means of the Variance Inflation Factor (VIF) Values below 10 have been considered adequate and cross tab is performed for each independent variable to know each cell information to control extreme cell values by ordinal logistic regression.

Ethical consideration: Ethical clearance was obtained from university of Gondar and ethical committee of Amanuel mental specialized hospital. Formal letters of permission were obtained from

Amanuel mental specialized hospital. Completed questionnaire kept in secure place and computer data was kept confidential, by passwords security. Written consent form and an outline of the purpose of the study were discussed with each client and their caregiver who were agreed to participate. The clients have the right to withdraw from the interview at any time they wish. Participants was assured that if they wish to refuse to participate, their care of dignity were not been compromised in any way. Participants also were informed that there is no expectation of additional treatment or any associated benefit and risks for them participating in the study.

Results

Socio-demographic characteristics of the respondents

From a total of 423 people with schizophrenia, Four hundred ten were participated in the study, which yields a response rate of 96.9%. The respondents were predominantly males 269(65.6%), with a mean age of 35 years (+ 11.13 SD). Most of the respondents are single 214(52.2%) and 31.7% of the respondents had cannot read and write and primary by their education. Forty seven percent of participants were in the income group of <735 birr. The details are shown in Table 1.

Variables	Frequency(410)	%
Age		
	106	25.9
18-27	157	38.3
28-37	101	24.6
38-47	46	11.2
>=48		
Sex		
Male	269	65.9
Female	141	34.4
Residency		
Urban	317	77.3
Rural	93	22.7
Marital Status		
Single	214	52.2
Married	163	39.8
Separated	20	4.9
Divorced	9	2.2
Widowed	4	1
Educational status		
Cannot read and write	35	8.5
Primary	95	23.2
Secondary	137	33.4
Diploma and above	143	34.9
Monthly Income		
<735birr	195	47.6
735-1176birr	60	14.6
≥ 1176birr	155	37.8

Table1: Socio-demographic characteristics, among people with schizophrenia at amanuel mental specialized hospital, Addis Ababa, Ethiopia, 2017 (n=410).

MSPSS sub scale	Mean	Interna Irelability Cronbach's alpha
Family	12.93	
Friend	9.94	
Significant other	11.99	
Total scale	2.594	0.92

Table 2: Means, standard deviations (SD) and internal reliability.

Reliability: The mean, Standard deviation and Cronbach's alpha estimates were calculated for the MSPSS subscales and for the entire scale. The results are shown in Table 2.

Clinical factors of respondents: Fifty seven percent of the participants have poor medication adherence. Thirty two percent of them are history of hospital admission (Table 3).

Substance related factors: Two hundred ninety nine (72.9%) of the participants are using substances, Thirty five percent of them are smoking cigarette. The details are shown in Table 4.

Level of perceived social support among schizophrenia patients: The overall level of perceived social support in this study was found to be low social support is (21%), medium social support is (58.5%) and high social support is (20.5%).

Level of perceived social support on the bivariate analysis of in relation to each explanatory variables such as age, sex, level of education, number of hospitalization, monthly income and medication adherence where found to be significantly associated at P-value less than 0.2. These factors were entered in to multivariable analysis for further analysis in order to control confounding effects (Table 5). The multivariate analysis of ordinal logistics were showed that primary and

Characteristics	Frequency	Percentage
Family history of mental illness		
Yes	109	26.6
No	301	73.4
History of hospital admission		
Yes	277	67.6
No	133	32.4
No of admission to hospital		
0-2times	243	59.3
≥ 3	167	40.7
Medication adherence		
Poor adherence	234	57.1
Good adherence	176	42.9

Table 3: Distribution of clinical factors of study participants in patients with schizophrenia at Amanuel mental specialized hospital, Addis Abeba, Ethiopia 2017 (n=410).

Characteristics	Frequency	%
Ever use of any substance		
Yes	299	72.9
No	104	25.4
Never use	7	1.7
Ever use of Alcohol		
Yes	76	18.5
No	334	81.5
Ever use of Cigarette		
Yes	145	35.4
No	265	64.6
Ever use of Chat		
Yes	97	23.7
No	313	76.3
Hashish		
Yes	19	4.6
No	391	95.4

Table 4: Distribution of substance use of study participants in patients with schizophrenia at Amanuel mental specialized hospital, Addis Ababa, Ethiopia 2017, (n=410).

Variables	Total f (%)	Social support			COR(95%CI)	AOR(95%CI)
		High	Medium	Low		
Age						
18-27	106(25.9)	24	59	23	1.25(0.63, 2.47)	1.36(0.66, 2.79)
28-37	157(38.3)	27	89	41	0.92(0.48, 1.75)	0.91(0.46, 1.81)
38-47	101(24.6)	24	63	14	1.63(0.82, 3.24)	1.46(0.71, 2.98)
>48	46(11.2)	7	29	10	1	1
Sex						
Male	269(65.6)	60	155	54	1.38(0.92, 2.06)	1.37(0.90, 2.09)
Female	141(34.4)	22	85	34	1	1
Number of hospitalization						
≥3	167(40.7)	19	84	64	0.23(0.15, 0.36)	0.46(0.27, 0.79)*
0-2x	243 (59.3)	63	156	24	1	1
Education level						
Illiterate	35(8.5)	6	22	7	0.68(0.33, 1.41)	0.63(0.28, 1.42)
Primary	95(23.2)	13	59	23	0.54(0.32, 0.90)	0.45(0.24, 0.82)*
Secondary	137(33.4)	21	87	29	0.62(0.39, 0.99)	0.53(0.31, 0.91)*
Diploma and above	143(34.9)	42	72	29	1	1
Monthly income						
<750	195(47.6)	28	126	41	0.68(0.46, 1.05)	0.92(0.56, 1.52)
750-1200	60(14.6)	13	33	14	0.80(0.44, 1.44)	0.98(0.50, 1.91)
>1200	155(37.8)	41	81	33	1	1
Medication adherence						
Poor adherence	234(57.1)	63	153	18	5.21(3.36, 8.08)	3.61(2.10, 6.18)*
Good adherence	176(42.9)	19	87	70	1	1

*= P value <0.05. Test of parallel lines P-Value 0.066

*= P value <0.05, Test of parallel lines P-Value 0.066

Table 5: Independent predictors of level of perceived social support among schizophrenia responders bivariate and multivariable analysis in A.M.S.H Addis Ababa Ethiopia, 2017 (n=410).

secondary level of education, greater than 3 hospital admission and poor medication adherence were significantly associated with low and medium perceived social support.

The odds of poor and medium perceived social support versus high perceived social support for poor medication adherence was 3.61 times greater as compared to good medication adherence. (AOR=3.61(2.10,6.18). Patients with less than three times hospital admission were 54% more likely in perceiving poor and medium perceived social support when compared with those who has multiple hospital admission.(AOR=0.46(0.27,0.79). Patients with primary level of education was 55% more likely in perceiving poor and medium social support when compared with those who has higher level of education. (AOR=0.45(0.24,0.82)

Patients with secondary level of education was 47% more likely in perceiving poor and medium social support when compared with those who has higher level of education.(AOR=0.53(0.31,0.91)

Discussion

The overall level of perceived social support in this study was found to be low social support (21%), medium social support (58.5%) and high social support (20.5%). Poor medication adherence, number of hospitalization and level of education were significantly associated with level of perceived social support among schizophrenic patients. General study conducted in Singapore to assess perceived social support in

schizophrenia accounts that 77.79%. A research conducted in Australia shows that perceived social support accounts for 20%. The possible difference could be instruments and analytical differences [5,9].

Those schizophrenic patients with poor medication adherence had 3.6 times more risk for poor and medium perceived social support when compared with those who had good medication adherence [2,6,10,18]. Similarly a cross-sectional study conducted in Nigeria, in 2011 shows that, schizophrenic patients with poor medication adherence had low perceived social support [21].

All most half (57.1%) of the respondents had poor medication adherence which is in lined with a study done in Nigeria 42.3%. The possibility of similarity could be the instrument in addition; our living standards. This finding was much lower than the study conducted in Canada and US (85%, 60%). The possibility of this difference could be their own clinical variables, study setting, sample size, instrument, socio cultural difference and analytical differences [12,13].

As per the findings of this study patients who are more than three times hospital admission in the hospital had more likely developing poor perceived social support as compared with those who had less than three times hospital admission However a cross-sectional study conducted in Australia is shows that show that, multiple hospital admission had low perceived social support as compared with those who had low hospitalization [5].

As per the finding of this study shows that patients with completed primary and secondary level of education had 23.2% and 33.4% more less likely in developing low perceived social support when compared with diploma and above respectively (AOR=0.45(0.24, 0.82), 0.53(0.31,0.91) with those who had not graduated from high school. On the other hand findings from a study done in Colombia in 2009 shows persons who had completed college degrees reported greater levels of perceived social support. The possibility of this difference could be due to their own clinical variables, study setting, sample size, instrument, socio cultural difference and analytical differences [22].

Limitation of the Study

The cross-sectional design of the study fails to assess patients' perceived social support over time, and it cannot attribute cause and effects.

Conclusion

This study showed that people with schizophrenia have lower and medium social support. Bing primary and secondary education, poor medication adherence and greater than 3 times hospital admission was positively associated with poor and medium perceived social support among schizophrenics' patients. Poor medication adherence is also plays a major role for perceived poor and medium social support.

Poor medication adherence was highly associated with low and medium perceived social support.

Recommendation

Based on the findings and the conclusions made, the following recommendations were forwarded.

To Amanuel mental specialized hospital

- ◇ Health care providers should screen all schizophrenic patients for their medication adherence on a regular basis and provide necessary clinical interventions, treatment and support.

- ◇ Health care providers should spent time with close relatives of patients to let them know the importance of social support.
- ◇ Clinicians should pay particular attention to those patients that need higher social support and working collaborate with clinical Psychologists.
- ◇ Social worker should assigned in each wards.

Ethics Approval and consent to participate

Ethical clearance was obtained from joint Institutional Review Board of Amanuel Mental Specialized Hospital and University of Gondar. The respondents had been given the necessary explanation about the purpose and the procedure of the Study and their right to participate or not to participate in the study. Written informed consent was obtained from participants. Confidentiality of the response had been declared to the respondents by the anonymity of the interviewer administered questionnaire.

Availability Data and Materials

The data will be available from the Principal investigator or corresponding author upon request.

Competing Interest

The authors declare no potential conflicts of interest with respect to the research.

Consent for Publication

Not Applicable

Funding Agency

Amanuel Mental Specialized Hospital

Authors' Contributions

Principal investigator MM has design, collects and analysed the data and also writes the final report and Manuscript. BB, DA, ZY and AB were also involved in analysis, report writing and drafted the manuscript. All authors read and approved the final manuscript.

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