

Assessment of Quality of Life and Associated Factors among Patients with Schizophrenia in Ethiopia, 2017

Tolesa Fanta^{1*}, Dessie Abebaw², Kibrom Haile³, Getahun Hibdye⁴, Dawit Assefa⁵, Tesfalem Araya⁶, Agitu Tadesse⁷

¹Research Director at Amanuel Mental Specialized Hospital Research and Training Department, and Expert Psychiatry Professional.

²Public Health Specialist at Amanuel Mental Specialized Hospital Research and Training Department.

³Chief Research and Training Director at Amanuel Mental Specialized Hospital Research and Training Department, and Psychiatrist.

⁴Amanuel Getahun Hibdye is Expert Psychiatry Professional at Amanuel Mental Specialized Hospital Clinical Service Department.

⁵Psychiatrist at Amanuel Mental Specialized Hospital.

⁶post graduate and under graduate team leader at Amanuel Mental Specialized Hospital.

⁷post graduate program coordinator at Amanuel Mental Specialized Hospital.

***Corresponding Author:** Tolesa Fanta, Research Director at Amanuel Mental Specialized Hospital Research and Training Department, and Expert Psychiatry Professional, Ethiopia, **Email:** tole.fanta@gmail.com

Abstract

Introduction: The quality of life of the schizophrenic patients has been found to be impaired compared to general population. This is due to the impact of schizophrenia on the quality of life of the patients frequently entails worse functioning because of its chronicity nature of the illness, lack of fully efficacious and effective treatment, lack of awareness about the illness, public stigma and adverse effects of medication.

Objective: To assess level of quality of life and associated factors among patients with Schizophrenia in Ethiopia.

Method: Institutional based cross sectional study was conducted from January to June 2017 on patients with Schizophrenia at amanuel Mental Specialized Hospital. Single population proportion formula was used to calculate sample size and the final sample size was 423. Systematic random sampling method was used to select participants. WHOQOL-BREF was used to assess quality of life of the patients. Data was interred in to and cleaned by Epidata and exported to SPSS-20 for further analysis. Descriptive statistics was used to describe the data; OR and 95% CI was used to measure the association. P-value of less than 0.05 was used to see the statistically significance of the association.

Result: A total of 422 patients with schizophrenia were involved in the study and the response rate for the study was 99.76%. Among the participants 290(68.7%) were male. The mean age of the participants is 35.46 with \pm 9.25 standard deviation. The most frequently prescribed antipsychotic drug is chlorpromazine 184(43.6%) followed by Risperidone 111 (26.3%). Amitriptyline is the most frequently prescribed drug among the medications ordered for other comorbid psychiatric conditions 42(41.6%) followed by Fluoxetine 27(26.7%). The most frequently occurring chronic medical illness in this study is Diabetes Mellitus 10(43.5%) followed by Tuber Closes (TB) and Gastritis 8(34.8%). Poor quality of life is found in 48.6% of participants. Among the cofactors educational status, occupation, resperidone, depression and sexual dysfunction were significantly associated with quality of life.

Conclusion: This study shows that most of the patients with Schizophrenia are suffering from poor quality of life and need special attention. Educational status (unable to read and write), occupation (working in NGO), being on Resperidon, having depression and sexual dysfunction were significantly associated with poor quality of life.

Abbreviations: AMSH: Amanuel Mental Specialized Hospital; CSFQ: Changes in Sexual Functioning Questionnaires; PHQ-9: Patients Health Questionnaire nine; SD: Sexual Dysfunction; SMI: Severe Mental Illness; SPSS: Statistical Package of Social Science; USA: United States of America, WHOQOL: World Health Organization Quality of Life.

1. INTRODUCTION

Schizophrenia has been characterized as one of the most severe and disabling mental illness and is found in all geographical areas [1].

The lifetime prevalence of schizophrenia is estimated to be about 1% worldwide and in Ethiopia prevalence is 0.47% [1, 2]. Schizophrenia classically begins in early adulthood or late teenage years [3]. It is considered as a long-lasting disorder with poor progress and one of the major psychotic illnesses in Ethiopia [4].

Frequent hospitalization, high relapses and loss of ability to work are strongly associated with Schizophrenia. Patients with schizophrenia are also prone stigma, which leads to discrimination and thus affects their life opportunities, such as health care services, housing, education, employment and social relationships and all these leads to poor quality of life [3].

Quality of life is a dynamic concept that can change from time to time and is characterized by its individuality; each individuals perceive their quality of life as different from that of others' [5].

Based on its definition of health the World Health Organization has defined quality of life in the context of health as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns (3).

The quality of life of patients with schizophrenia has been found to be impaired compared to general population. This is due to the impact of schizophrenia on the quality of life (QoL) of the subject frequently entails worse functioning because of its chronic character, lack of fully efficacious treatment, lack of disease awareness, social stigma and adverse effects of treatment [6].

In treating and managing Schizophrenia, clinicians often focus on treating psychotic symptoms and ignore factors that are directly related to quality of life and prognosis of disease even though evaluation of patient's quality of life can help a lot in improving quality of care in Schizophrenic patients [7].

In the care of patients with schizophrenia, interventions which only target symptoms are not enough, but a more holistic view is necessary in which patients' QoL is a central concern.

Even if quality of life is very important component of human being and also a target of treatment and rehabilitation in treating patients with psychiatric disorder there are limited and even no studies conducted regarding quality of life of patients with Schizophrenia in Ethiopia. So, the aim of this study was to assess the level of quality of life among patients with Schizophrenia and contributing factors to it.

2. METHODOLOGY

Study Design and Study Period: Institutional based cross sectional study was conducted from January to June 2017.

Study Area: The study was conducted at Amanuel Mental Specialized Hospital (ASMH) located in the country's capital, Addis Ababa. Amanuel mental specialized hospital is the only mental specialized hospital in the country where patients with severe mental illness, including schizophrenia, are treated. The hospital has a case load of more than 10,000 patients per month and schizophrenia is a leading diagnosis.

Population: All patients with Schizophrenia who are on follow up at AMSH are the source populations and people with Schizophrenia in the age group 18 & above who were on treatment at AMSH during the study period were study population.

Eligibility Criteria: All patients with Schizophrenia in age group 18 and above were included in the study and the patients in exacerbation phase were excluded from the study.

Sample Size: Single population proportion formula was used to determine the minimum number of sample required for this study. Since there is no study conducted previously in our country regarding this issue, we used proportion as 50% in sample size calculation. The final sample size for this study with 10% nonresponse rate was 423.

Sampling Procedure: Systematic random sampling technique was used to select the study participants from 4,885 patients with schizophrenia came for follow up during data collection period with interval of 11th.

Study Variables: The outcome variable for this study was Quality of Life among patients with Schizophrenia. Socio-demographic factors, duration of the illness, duration on treatment, medication, comorbid known chronic medical illness, history of admission and relapse, adherence to drug, Sexual Dysfunction, Suicide,

Depression and history of substance use were explanatory variables for this study.

Instruments: The gold standard instrument which is Structured Clinical Interview for DSM-IV-TR axis I disorders (SCID) was used to confirm a diagnosis of Schizophrenia. Quality of Life was assessed with WHOQOL-BREF which was developed by WHO and cross culturally valid instrument. It contains 26 items with four domains: physical health (7 items), psychological health (6 items), social relationships (3 items), and environmental health (8 items). It also contains items which measure general perception of life and health (Item 1 and Item 2) This WHOQOL is probably the most widely used health-related quality of life measure in the world with about 58 national versions [8]. Each individual item of the WHOQOL-BREF is scored in Likert scale from 1(very dissatisfied) to 5 (very satisfied). Following the instructions listed in a manual on WHOQOL-BREF prepared by WHO, raw scores for the domains of WHOQOL-BREF were calculated and were transformed on the scale ranging from 0 to 100, where 100 is the highest and 0 is the lowest QOL score. The mean of each domain and the mean of total score was also calculated. Mean scores of WHOQOL-BREF was used to categorize Quality of Life as Good and Poor QOL. Hence, the subjects who scored less than or equal to mean score were categorized as having POOR QOL and those who scored greater than mean score were categorized as having GOOD QOL.

Sexual dysfunction was measured by using Changes in Sexual Functioning Questionnaires (CSFQ-14). PHQ-9 and 8 –item Morisky medication adherence Scale were used to measure depression and medication adherence respectively. The English version of the instruments was translated to local language and was back retranslated to English by professionals in subject matter.

Data Quality Control: 17 masters level mental health students were hired for data collection and two masters level mental health professionals were hired to supervise the data collectors. The data collectors were given a one

day training on questionnaire and way of assessment. Pre-test was conducted two weeks before the start of actual data collection to know the time needed to complete one questionnaire and to know whether the questionnaire used is understandable to the study participants or not. The data collected during the pre-test was not included in the final analysis.

Data Processing and Analysis: Data was coded and entered to Epi data and transferred to Statistical Package for Social Sciences version 20 (SPSS-20) for further analysis. Descriptive statistical analysis was used to estimate the frequencies and percentages of the variables. Bivariate and multivariate logistic regression analysis was used to see the association between outcome and explanatory variables. The strength of the association was measured by odds ratio with 95% CI and P-value less than 0.05 was considered as statistically significant.

Ethical Consideration: Ethical clearance was obtained from AMSH Ethical Review Committee. The Four Item Abbreviated Mental Test (AMT4) was used to measure the capacity of the patient to give consent. Then the purpose, importance and confidentiality of the information gathered was explained to each of the competent participant before the start of interview. Participants were also informed that there is no harm to them if they would not agree to participate or withdraw from participation during the data collection process. Finally, their willingness to be involved in the study was asked and written consent was obtained. At the time of data collection the investigator, supervisor and data collectors followed ‘code of ethics’ and obeyed the rules & regulations of the hospital. Privacy was kept strictly at the time of data collection.

3. RESULT

A total of 422 patients with schizophrenia were involved in the study and the response rate for the study was 99.76%. Among the participants 290(68.7%) were male. The mean age of the participants is 35.46 with \pm 9.25 standard deviation. Majority of the participants 353(83.6%) were from urban area (Table 1).

Table 1. Distribution of participants by Socio-Demographic Factors.

No.	Variables	Variables category	Frequency (422)	Percentage (100%)
1	Age	18-24	35	8.3
		25-34	174	41.2
		35-44	150	35.5
		>=45	63	14.9

2	Sex	Female	132	31.3
		Male	290	68.7
3	Marital Status	Married	154	36.5
		Single	224	53.1
		Divorced and Widowed	44	10.4
4	Ethnicity	Oromo	140	33.2
		Amhara	126	29.9
		Gurage	98	23.2
		Others*	58	13.7
5	Religion	Orthodox	228	54
		Protestant	79	18.7
		Muslim	115	27.3
6	Educational Status	No formal education	31	7.3
		Primary school	137	32.5
		High School	164	38.9
		Diploma	46	10.9
		Degree and above	44	10.4
7	Occupation	Private	135	32
		Governmental	42	11.1
		Unemployed	142	33.6
		Others(House wife, Daily labourers)	98	23.2
8	Residence	Urban	353	83.6
		Rural	69	16.4

*Tigre, Wolaita, Silte

4. MEDICATION RELATED FACTORS

The most frequently prescribed antipsychotic drug is chlorpromazine 184(43.6%) followed by Risperidone 111 (26.3%) (Fig. 1). Amitriptyline

is the most frequently prescribed drug among the medications ordered for other comorbid psychiatric conditions 42(41.6%) followed by Fluoxetine 27(26.7%) (Table 2).

Table 2. Distribution of participants by Medication Related Factors

No	Variables	Variables category	Frequency	Percentage
1	Chlorpromazine	No	238	56.4
		Yes	184	43.6
3	Haloperidol	No	361	85.5
		Yes	61	14.5
5	Trifluoperazine	No	417	98.8
		Yes	5	1.2
7	Fluphenazine	No	330	78.2
		Yes	92	21.8
9	Risperidone	No	311	73.7
		Yes	111	26.3
11	Olanzapine	No	415	98.3
		Yes	7	1.7
13	Thioridazine	No	402	95.3
		Yes	20	4.7
15	Number of antipsychotics	One	345	81.8
		>=2	77	18.2
16	Other medications for other mental illness	No	323	76.5
		Yes	99	23.5
17	Amitriptyline	No	59	58.4
		Yes	42	41.6
18	Fluoxetine	No	74	73.3
		Yes	27	26.7
19	Carbamazepine	No	84	83.2
		Yes	17	16.8
20	Valproic acid	No	86	86
		Yes	14	14
21	Other (Imipramine)	No	98	97
		Yes	3	3

5. CLINICAL FACTORS AND SUBSTANCE RELATED FACTORS

The most frequently occurring chronic medical illness in this study is Diabetes Mellitus 10(43.5%) followed by Tuber Closes (TB) and Gastritis 8(34.8%). (349)82.7% of the study participants have sexual dysfunction. Among the substance users 71(65.1%) use cigarette and

71(65.1%) use khat. The median score of duration of the illness (Table 3) is 7 with inter quartile range of 6, and the median score of duration on treatment is 6 with inter quartile range of 10. The median score for frequency of admission is 1 with inter quartile range of 1, and the median score for frequency of relapse is 2 with inter quartile range of 2.

Table 3. Distribution of participants by Clinical and Substance Use Related Factors

No	Variable	Variables Category	Frequency (n=422)	Percentage (100%)
1	Duration of the illness	<=5years	174	41.2
		6-10years	119	28.2
		>=11years	129	30.6
2	Duration on treatment	<=5years	207	49.1
		6-10years	103	24.4
		>=11years	112	26.5
3	Admission	No	254	60.2
		Yes	168	39.8
4	Number of admission	<=1	96	57.1
		>=2	72	42.9
5	Relapse	No	226	53.6
		Yes	196	46.4
6	Number of relapse	<=1	96	49
		>=2	100	51
7	Depression	No	346	82
		Yes	76	18
8	Adherence	No	203	48.1
		Yes	219	51.9
9	Sexual Dysfunction	No	73	17.3
		Yes	349	82.7
10	Comorbid Medical illness	No	399	94.5
		Yes	23	5.5
11	HIV	No	22	95.7
		Yes	1	4.3
12	Diabetes Mellitus	No	13	56.5
		Yes	10	43.5
13	Renal Disease	No	22	95.7
		Yes	1	4.3
14	Heart Disease	No	22	95.7
		Yes	1	4.3
15	Hypertension	No	19	82.6
		Yes	4	17.4
16	Others (TB and gastritis)	No	15	65.2
		Yes	8	34.8
17	Substance use	No	313	74.2
		Yes	109	25.8
18	Cigarette	No	38	34.9
		Yes	71	65.1
19	Alcohol	No	89	81.7
		Yes	20	18.3
20	Chat	No	38	34.9
		Yes	71	65.1
21	Cannabis	No	109	100
		Yes	0	0
22	Suicidal Ideation	No	373	88.4
		Yes	49	11.6
23	Suicidal Attempt	No	406	96.2
		Yes	16	3.8

6. MAGNITUDE OF QUALITY OF LIFE AMONG PATIENTS WITH SCHIZOPHRENIA

The mean score of the WHOQOL-BREF scale in this study was 60.6 with Standard Deviation of ± 9.13 . Out of the total 422 study

participants, 48.58% had poor quality of life. The WHOQOL BREF also covers four different domains of quality of life (physical Domain, psychological Domain, social Domain and environmental Domain) (Table 4) (Fig. 1).

Table 4. The mean score of participants across the four domains of WHOQOL-BREFF.

WHOQOL-BREFF Domains	Mean(\pm SD)
Physical Domain	22.92 \pm 4.08
Psychological Domain	20.07 \pm 3.49
Social Relationship	9.22 \pm 2.46
Environment	24.89 \pm 5.43

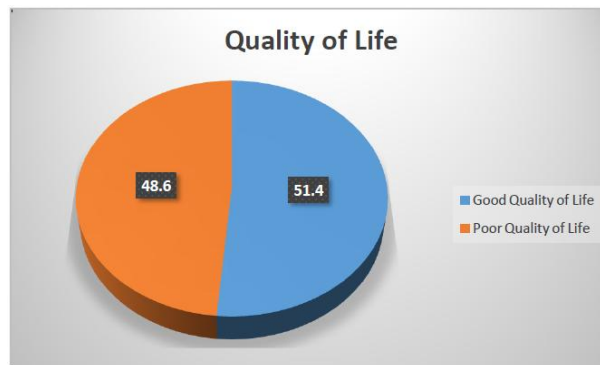


Figure 1. Magnitude of Poor Quality of Life in Patients with Schizophrenia

7. BIVARIATE AND MULTIVARIATE ANALYSIS

After bivariate logistic regression analysis, six variables (Educational status, Occupational Status, Resperidone use, Suicidal Ideation, Depression and Sexual Dysfunction) met the requirement to proceed to multivariate logistic regression analysis. After multivariate analysis, Educational status, Occupational status, Resperidone use, Depression and Sexual Dysfunction were significantly associated with Poor Quality of Life. Compared to those who

are degree and above holders, being illiterate, [AOR 4.44, 95% CI (1.40, 14.08)] were significantly associated with Quality of life. Working in NGO, [AOR 0.38, 95% CI (0.21, 0.70)], being on Resperidone, [AOR 0.53, 95% CI (0.32, 0.87)], Depression, [AOR 3.77, 95% CI (2.02, 7.05)] and Sexual Dysfunction, [AOR 4.90, 95% CI (2.50, 9.59)] were significantly associated with Quality of Life at p-value<0.05 (Table 5).

Table 5. Factors associated with sexual dysfunction among patients with Schizophrenia at Amanuel Mental Specialized Hospital/2017.

Explanatory variables	Variables category	Quality of Life		Bivariate and Multivariate Analysis		P-Value
		Good QOL	Poor QOL	Bivariate Analysis	Multivariate Analysis	
				COR (95% CI)	AOR (95% CI)	
Educational Status	illiterate	9	22	3.22(1.21,8.55)	4.42(1.40,14.08)	0.011
	Primary school	67	70	1.37(0.69,2.72)	1.89(0.84,4.26)	
	High school	90	74	1.08(0.55,2.12)	1.28(0.58,2.83)	
	Diploma	26	20	1.01(0.44,2.33)	1.07(0.42,2.72)	
	Degree and above	25	19	1.00	1.00	
Occupation	Private	67	68	1.00	1.00	
	Governmental	28	19	0.67(0.34,1.31)	0.76(0.34,1.73)	
	Unemployed	55	87	1.56(0.96,2.51)	1.56(0.92,2.65)	
	NGO	67	31	0.46(0.26,0.78)	0.38(0.21,0.70)	
Resperidone	No	173	138	1.00	1.00	0.012
	Yes	44	67	0.52(0.34,0.81)	0.53(0.32,0.87)	
Suicidal Ideation	No	200	173	1.00	1.00	
	Yes	17	32	2.17(1.17,4.05)	1.31(0.61,2.81)	

Depression	No	198	148	1.00	1.00	
	Yes	19	57	4.01(2.29,7.03)	3.77(2.02,7.05)	0.000
Sexual Dysfunction	Absent	60	13	1.00	1.00	
	Present	157	192	5.64(2.99,10.66)	4.90(2.50,9.59)	0.000

8. DISCUSSION

This study found that quality of life of patients with Schizophrenia is extremely impaired and needs attention. In this study 48.6% of the study participants scored less than mean score of WHOQOL-BREF which was labeled as poor quality of life. This finding is less than that of Brazil (93%) and that of Nigeria (11.2%) [9]. This discrepancy may be due to difference in sample size (160 in case of Nigeria and 181 in case of Brazil), tool difference (QLS-BR in case of Brazil) and difference in cultural background.

In multivariate analysis, after adjusting for possible confounding factors, participants who are unable to read and write are 4.42 times more likely to have poor quality of life compared to those who are degree and above [4.42(1.40,14.08)]. This finding is supported by study conducted in Latin America on schizophrenic patients and study conducted in Ethiopia on Epileptic patients [10, 11].

The participants who employed in NGO are 62% protective against having poor quality of life [**0.38(0.21, 0.70)**] compared to those who are in private work. This finding is supported by the study conducted in Brazil [12].

Being on Risperidone is 47% protective against having poor quality of life [**0.53(0.32, 0.87)**] compared to those who were not on Risperidone. This finding is supported by the finding of research conducted in Spain in which the participants those who were on second generation antipsychotics became protective against having poor quality of life [13].

The participants who screened positive for depression are 3.8 times more likely to have poor quality of life compared to those who screened negative for depression. This finding is supported by the study conducted in Finland, Japan and Nigeria. This may be due to [3, 14, 15].

The participants who have sexual dysfunction are 4.9 times more likely to have poor quality of life compared to those who have no sexual dysfunction [**4.90(2.50,9.59)**]. This result is supported by the study conducted by Olfson and Kandrakonda S [16]. This may be due to the fact that an improper sexual functioning may affect

maintaining a satisfying intimate relationship which is the major component of Quality of life.

9. CONCLUSION

This study shows that most of the patients with Schizophrenia are suffering from poor quality of life and need special attention. Among the hypothesized factors to be risk factors for poor quality of life, educational status (unable to read and write), occupation (working in NGO), being on Risperidone, having depression and sexual dysfunction were significantly associated with poor quality of life.

10. DECLARATIONS

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Availability of Data and Materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Authors' Contributions

TF involved in designing and coordinating overall progress of the study; KH, DA², GH, DA⁵, TA and AT equally contributed in the design of the study, performed the statistical analyses and critically revised the manuscript. All authors read and approved the final manuscript.

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