ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF PSYCHIATRY

Determinants of health-related quality of life in patients with schizophrenia at Amanuel Mental Specialized Hospital, Addis Ababa, Ethiopia

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A Final Research Report Submitted to the Department of Psychiatry, School of Medicine, College of Health Science, Addis Ababa University, in partial fulfillment of the requirements for the specialty certificate in Psychiatry

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Abbreviations

AAU	Addis Ababa University
AMSH	Amanuel Mental Specialized Hospital
BP	Bodily pain
BPRS	Brief Psychiatric Rating Scale
DALYS	Disability Adjusted Life Years
HRQoL	Health-related Quality of Life
PANSS	Positive and Negative Symptoms of Schizophrenia
QOL	Quality of Life
SF-36	Short Form 36
SPSS	Statistical Package for the Social Sciences
VT	Vitality
WHO	World Health Organization
YLD	Years Lost to Disability

Contents

Abstract

Introduction: Quality of life of patients living with schizophrenia has been shown to be lower compared with those that are not affected by it, Understanding the possible contributing factors could create awareness as well as help design patient centered therapeutic interventions

Objective: To determine socio-demographic, clinical and psychosocial characteristics associated Quality of life of patients with schizophrenia.

Methods: Study participants who filled the SF-36 questionnaire were included in this study, the association between socio-demographic, clinical and psychosocial parameters with health related quality of life of patients living with schizophrenia was determined.

Result: The study sample consisted of 200 patients living with schizophrenia. The mean score of the study participants was found to be lower than the general population, the female participants scored lower than the male and those who use substances overall score was also lower. The total score of PANSS showed negative association with the SF-36 domains, duration of illness showed no significant association with quality of life.
Khat and tobacco use did not show significant association but consumption of alcohol was found to be associated in the mental health and bodily pain domains.

Conclusion: The variables Sex, occupation, PANSS total score and alcohol use showed associations with the SF-36 domains.

Introduction

Quality of life (QOL) as defined by the World Health Organization (WHO) is "an individual's perception of their position in life in the context of culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns". QOL has been used as a monitoring tool to assess service provision and in clinical trials of people with schizophrenia. (Meije, et al., 2008).

There are different tools that were developed to measure quality of life in different populations including in the general population and clinical setups. The Short Form 36 questionnaire (SF - 36) was developed in the United States of America and is utilized for routine monitoring and assessment of health outcomes in adult patients worldwide, it has been used in high-income countries and found to be valid and reliable. It was also validated for use in our country in 2004 GC. (Kebede, et al., 2004).

Schizophrenia, one of the severe mental illnesses, affects around 21 million people worldwide and causes diverse functional impairment including social, occupational, interpersonal and physical health through the loss of an acquired capability to earn a livelihood or disruption of studies. (Sadock, et al., 2017)

Disability Adjusted Life Years (DALYs) in the years 1990 – 2010 have continued to be stable globally, schizophrenia ranking eighth (2.6% of total). Regarding Years Lost to Disability (YLD), schizophrenia accounted for 4.9% of total, measuring 3rd. These findings are indicators of disability and morbidity burden of the disorder on individuals, families, and communities worldwide. (Sadock, et al., 2017)

Various studies have shown that patients with schizophrenia have low quality of life compared to the general population and those who are physically ill, medical co morbidities are said to be common in these group of patients and rate of detections is very low , according to different surveys around 20-43% of outpatients and 46-80 % of patients diagnosed with schizophrenia have co morbid medical illnesses, mortality rates associated with chronic non communicable diseases such as cardiovascular diseases have been increasing over the past decade with a significant decline in life expectancy in patients with schizophrenia. (Sadock, et al., 2017)

Treatment of severe mental illness has come a long way from detentions in asylums to pharmacological approaches and other therapeutic interventions including electroconvulsive therapy. In current psychiatric practice improving quality of life and rehabilitation is part of the maintenance phase of therapy in patients with schizophrenia following the acute and stabilization phase.

Introducing social skills training and rehabilitation helps the patient function independently in the society from which they feel withdrawn , resulting in a better quality of life in the social domain (Dziwota, et al., 2017) On the other hand, pharmacologic interventions are effective in treating positive symptoms, hence reducing the impact that arise associated with these psychopathologies but also shown to contribute to compromise in physical health as second-generation antipsychotics cause weight gain which might lead to metabolic imbalance, resulting in obesity and type II diabetes, patients with schizophrenia are said to have 60 % obesity prevalence and this has led to poor self-image and has significant impact on treatment adherence (Kolotkin, et al., 2008) Additionally lifestyle risk factors such as nutrition, problematic substance use, commonly tobacco smoking, and sedentary lifestyle also contribute to poor Health-related Quality of Life (HRQOL) in patients with schizophrenia.

Negative symptoms characterized by restricted affect, low social interaction, and poverty of speech have been implicated in low quality of life in patients with schizophrenia.(Z. Lim & Lee, 2018) These psychopathologies could be directly related to the disorder or arise due to other superimposed conditions including depression, social anxiety, chronic pain, and environmental deprivation, contributing to low quality of life which makes identifying and addressing these factors important. (Sadock, et al., 2017)

In Ethiopia, treatment of patients with schizophrenia is mainly pharmacotherapy focused, and the place for rehabilitation is still minimal. The lack of rehabilitation facilities and awareness along with stigma associated with the disorder could contribute to poor quality of life in this population. This research would add emphasis to the biopsychosocial approach in treating schizophrenia and individually-tailored interventions for patients.

Literature review

Quality of life of patients with schizophrenia has been found to be lower than the general population according to different studies done worldwide, most of them were done in high and middle-income countries, most of the studies indicated chronic nature of the illness, persistence of positive and negative symptoms, male gender and being single affected quality of life in this group of patients negatively. (Eack & Newhill, 2007)

A review paper published in United states of America tried to look into the evidence concerning the prediction of everyday disability in patients with schizophrenia along with the correlation of cognitive deficits, psychopathologies as well as social and environmental factors , among psychopathologies negative symptoms were found to have higher impact on everyday social functioning than compared to psychotic symptoms , according to the paper the negative effect of depression on everyday functional impairment is overlooked even though patients with schizophrenia could have a co morbid major depressive disorder fulfilling diagnosis criteria , being financially disadvantaged lacking appropriate clothing and poor job opportunities are some identified environmental factors by the study contributing to low everyday functioning , as result the study implied adding emphasis in addressing this issues along with physical wellness to predict better functionality in these group of patients . (Harvey & Strassnig, 2012)

A study done in Brazil with the aim of looking into the socio-demographic and clinical variables related to low quality of life in patients with schizophrenia, found male gender, being single and having low education and income as important socio-demographic variables associated with low quality of life in patients with schizophrenia, In women subjects, disease course and living situation were considered as more favorable, and women thus prove to be more satisfied than male patient. The study also established being married and having adequate premorbid psychosocial adaptation as contributing factors for a more favorable prognosis. Regarding income and financial status the study indicated psychiatric patients are less satisfied with their finances than with other domains In terms of clinical variables number of medications, current treatment, and patient's status at the time of the study were only significantly associated in two specific domains social network and intrapsychic functions and interpersonal relations, from which the study concluded taking three or more psychoactive drugs, outpatient treatment, and psychomotor agitation during the interview as significant clinical variables affecting quality of life negatively. (Campos, 2012)

A cross-sectional study in Singapore found even though positive symptoms and presence of other psychiatric co morbidities have a significant but weaker contribution to HRQoL of patients with schizophrenia , the study establishes depressive symptoms as the most important clinical factor that affect HRQoL in patients with schizophrenia, Based on the results the study suggest emphasizing the identification of depressive symptoms and positive symptoms in order to improve the HRQoL of individuals with schizophrenia and identifying other factors or variables that play crucial roles in determining a patient's level of HRQoL contributing in developing a holistic and person-centered management plan for patients with schizophrenia. (Z. Lim & Lee, 2018)

A study conducted in 2011 with the aim of clarifying the relationship between health-related quality of life (HRQOL) in schizophrenia and the sociodemographic and clinical variables, in an inpatient facility male patients with a diagnosis of schizophrenia in Portugal showed HRQOL in schizophrenia is not significantly impaired, with values similar to those obtained in the general population the study find occupation, age and Brief Psychiatric Rating Scale (BPRS) total score presented as the most significant predictors of the HRQOL in schizophrenia but revealed percentages of explained variance < 25% which was not interpreted , the study also found BP (bodily pain) and VT (vitality) scores above the normative data which oppose the literature that supports impairment in patients with schizophrenia , regarding the clinical variables the study didn't find any association between positive and negative symptoms and HRQOL, as the study used a limited number of patients all of them male and long duration of hospitalization which was considered as a limitation of the study . (Campos, 2012)

A 3-year longitudinal, observational study, conducted in 10 European countries including Denmark, France, Germany, Greece, Ireland, Italy, The Netherlands, Portugal, Spain, and the United Kingdom of health outcomes associated with the treatment of schizophrenia showed antipsychotic treatment over a 36-month period having significant and persistent improvement in HRQOL in patients with schizophrenia , those patients who were put on atypical antipsychotics were found to have improved HRQOL compared to other options (Alonso, et al., 2009)

A paper published in Spain with an interest of looking for factors influencing the QOL of patients with schizophrenia supported previous studies which showed QOL in these patients were worse compared to the general population and that of other physically ill patients, younger age ,women, being married ,and those with a low level of education report a better quality of life the longer the duration of illness the worse the QOL , negative and depressive psychopathologies ,had negative impact on quality of life. Patients who were part of community support programs demonstrate a better quality of life than those who are institutionalized.In terms of pharmacotherapy atypical antipsychotics have established a greater efficacy profile and better tolerability pattern than first generations, however improving quality of life of patients is controversial at present, the study was unable to establish effect of extra pyramidal side effects on the quality of life, weight gain and sexual dysfunction, have been shown to be negatively associated with quality of life. (Bobes, et al., 2007)

A study done in Taiwan explored the associations of personal, disease, family, and social factors with quality of life in patients with chronic mental illnesses according to the study those who had high psychological distress, had a history of suicide attempts and placed a high burden on their family or did not live in their own home, had low mental QoL ,older patients , being unemployed and living alone, high amount of psychological distress, past suicide attempt or perceived high burden on family was also attributing factor for low physical QoL(Huang, et al., 2012)

A descriptive qualitative study conducted in Saudi Arabia showed patients who were participants in the study reported hiding of their illness because of stigma associated with it and considered religion as a protective factor in minimizing the emotional isolation they felt , the study recommended providing of integrated care for patients with severe mental illnesses and also creating awareness in reducing stigma as it was reported as an important factor in poor QoL of patients with schizophrenia. (Alshowkan, et al., 2015) . Concerning the impact of stigma on QOL another study conducted in Turkey found the higher the levels of internalized stigmatization, the more the QOL significantly decreased based on the result the study suggested reducing self-stigmatization through society-based educational and support programs, arranging social and education support groups and encouraging patient participation could improve QOL in these group of patients . (Özçelik & Yıldırım, 2017)

A systematic review of the quality of life of Nigerian patients with psychiatric disorders showed varied associations between QOL and different socio-demographic factors in psychiatric patients. Similar QOL correlates have also been identified among Nigerian patients with schizophrenia. Poor social support has been identified as an important determinant of poor subjective QOL among Nigerian patients and supportive social relationship is positively predictive of higher QOL scores in individuals diagnosed with severe mental illness. (Aloba, et al., 2012)

A study conducted in the year 2004 G.C to evaluate reliability and validity of SF-36 and also normative data in Butajira, Ethiopia showed a higher association between being married and higher SF-36 scores, unlike other studies where lower educational status was associated with low SF-36 scoring the study didn't have significant association in this variable and rural setup with little educational variance was possible explanation for the result, patients with schizophrenia also showed marked difference in their score compared to the general population attributed factors by the authors were severity of illness and positive and negative symptoms (Kebede, et al., 2004)

In another study conducted in Butajira by the same author in the year 2005 found, all baseline and follow up SF-36 mean dimensional scores were found to be lower than the mean scores of the general population of Butajira for both recent onset and long-standing cases. The study concluded in the study population high levels of positive and negative symptoms , poor functioning and disability in the cases at baselines were noted with significant improvement over time, these improvements were associated with sociodemographic and clinical characteristics of the subjects, such as being female and improvement in positive symptoms also residing in a rural area and a longer stay in education was associated with negative symptom improvement Subjects with high positive and negative symptoms scored markedly diminished SF-36 scores on general health, vitality, and mental health parameters. (Kebede, et al., 2005)

Objectives

General objective

- To determine socio-demographic, clinical and psychosocial characteristics associated with Health related quality of Life of patients with schizophrenia

Specific objectives

- To identify the association between sociodemographic factors and quality of life
- To determine the psychosocial factors associated with health related quality of life
- To assessclinical factors associated with the QOL of patients with schizophrenia

Methodology

Study design –Secondary data analysis of a facility-based quantitative study

Study setting – The study was conducted at Amanuel Mental Specialized Hospital (AMSH) the site in which the primary study was conducted. Amanuel specialized mental hospital is located in Addis Ababa the capital city of Ethiopia; it is the first psychiatric hospital in the country with a capacity of 261 beds for inpatient service and providing service in outpatient clinics as well as an emergency department.

Sample size – The study used participants who were recruited in the primary study (*a placebo-controlled trial of folate with B12 in patients with schizophrenia with residual symptoms in Ethiopia)* with a total number of 200 subjects filling the SF 36 questionnaire among participants who have follow up in the outpatient clinics.

Inclusion criteria

- Participants who had a diagnosis of schizophrenia.
- Both male and female genders
- Age 18 – 65 years
- Treatment with antipsychotic medication for at least 6 months at optimal dose or stable dose for at least 6 weeks.
- Positive and Negative Symptoms of Schizophrenia (PANSS) total score of at least 60, with at least a 3 (moderate) on one negative symptom item or on one positive symptom item.

Exclusion criteria

- Unable to provide informed consent or those without a guardian to consent
- Unstable physical or psychiatric illness.

Study period-Data for the primary study was collected from Nov 2014-March 2017. Data cleaning and analysis for the current report was conducted from June to August 2019.

Instruments and Measurements- RAND 36-Item short form health survey (SF-36) version 1.0 was used to assess the HRQoL and clinical parameters including psychopathology and substance use were evaluated by PANSS and Consumptive Habit Questioner.

The SF-36 consists of 36 items assessing QoL in 8 domains which includes Physical Functioning (PF), Physical Role Functioning (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Mental Health (MH), Social Functioning (SF), and Emotional Role Functioning (RE).

The first domain PF assesses limitations in physical activities. The role physical and emotional aspect of the instrument assess problems in daily activities due to physical and emotional limitations respectively , bodily pain measures limitations due to pain , vitality measures problems as a result of energy and fatigue, the social functioning domain looks into the effect of emotional and physical health in normal social interactions, the mental health aspect of the measure identifies happiness , nervousness and depression the general health domain assess subjective experience of health.

The subscales RP, RE, SF and PF assess impairment in daily functioning but the MH and GH domains evaluate the subjective sense of wellbeing. (Kebede, et al., 2005)

The final scores of each domains is scored in the range of 0 to 100, the value of 0 indicates worst health and 100 being in perfect health.

Data analysis

Data analysis was carried using SPSS version 24, descriptive statistics was computed for relevant socio-demographic and clinical parameters. Significant correlations were determined using independent T test, Pearson's correlation and ANOVA. The dependent variable was computed as a continuous variable and the possible association with the independent variables was determined by the above methods.

Results

Socio-demographic characteristics

The study included 200 participants who were included in the primary study.
Out of the 200 participant's majority of them were men (64.5%). The overall age of the sample ranged from 18 to 62 years, with 88% of them distributed among 25-54 years. With regard to marital status, most participants n=172 (86%) were not in marital relationship. About 77.5% of the participants didn't have occupation and around 80% of the study participants lived with their parental family. Relatively higher number of participants reported they had attended up to high school (n=92, 46%).The socio-demographic characteristics of participants are described in Table1

Table 1 Socio-demographic characteristics of study participants

Characteristics	Number (n=200)	Percentage
Sex		
Male	129	64.5
Female	71	35.5
Age group		
Under 24 years	11	5.5
25-54 years	176	88
Above 54 years	13	6.5
Marital status		
In marital relationship	28	14
Not in marital relationship	172	86
Occupational status		
No job	155	77.5
Has job	45	22.5
Living arrangement		
Living with marital family	25	12.5
Living with parental family	160	80
Others *	15	7.5
Educational status		
No formal education	11	5.5
Educated 1-8th grade	63	31.5
Educated 9-12	92	46
Above 12th grade	34	17

Others * living with friends and alone

The substances that were assessed in the study included alcohol, khat and Tobacco most of the participants didn't report use of substances. Tobacco users were relatively higher compared to users of the other substances (22.5%), the use of more than one substance was also reported by the participants, 17.7% of the participants used 2 substances and around 8.6 % reported use of 3 substances. Among the multiple substance users majority of them were males.

Table 2 substance use pattern of the study participants

Tobacco	**Frequency**	**Percent**
Yes	**45**	**22.5**
No	**153**	**76.5**
Alcohol		
Yes	19	9.5
No	179	89.5
Khat		
Yes	17	8.5
No	181	90.5
More than 1 substance use		
2	35	17.7
3	17	8.6
4	4	2

The total duration of illness of the study participants is one of the parameters used as clinical measure, the minimum duration of illness was reported to be 1 year and the maximum was 39 years. The median of the duration of illness was 13 years. Duration of illness was used as one clinical indicator for possible association as a factor influencing quality of life of patients living with schizophrenia. The mean score in each domain of the SF-36 showed a decreasing pattern as the duration of illness increased.

PANSS total score wasanother clinical indicator used to determine the correlation between the score and the level of association in the SF-36 outcome. The mean PANSS total score was lower in the majority of the domains as the total score increased.

The mean scores of the eight domains of SF-36 showed a pattern of decreasing score as age increased and the scores of females was lower than males.

Regarding marital status, those who were in marital relationship scored higher in the domains of PF, RE and SF but on the other parameters those who were not in marital relationship scored higher.

Study participants who have jobs have higher mean scores compared to those who didn't have jobs.

In terms of Khat use in the domains of PF, RP and BP, those who didn't use showed higher scores, but on the other domains those who reported positive for khat use scored higher.

Participants who consumed alcohol scored lower in the domains BP, MH, SF, VT and GH domains.

Among the participants who reported to use tobacco in terms of PF, RP, RE and MH scored lower mean value in comparison to those who didn't.

The mean scores of the variables will be shown in the tables below.

Table 3 Mean scores for the 8 domains of the SF-36 of the study participants

SF-36 domain	Mean (SD)	Mean scores	
		Male	Female
Physical functioning	80.5(22.8)	83.29	75.49
Physical role functioning	61.5(43.97)	61.82	60.92
Bodily pain	83.87(20.43)	86.12	79.78
Mental health	69.76(17.10)	71.04	67.44
Social functioning	60.62(23.53)	61.43	59.15
Vitality	56.33(18.31)	57.05	55.0
Emotional role functioning	62.16(44.29)	62.27	61.97
General health	54.07(18.22)	55.54	51.40

Table 4 Mean scores for the 8 domains of the SF-36 of the study participants

SF-36 domain	Mean score khat		Mean score alcohol		Mean scoretobacco	
	Yes	NO	Yes	NO	Yes	NO
Physical functioning	79.71	80.39	83.16	80.03	80.22	80.36
Physical role functioning	58.82	61.33	55.26	61.73	52.78	63.56
Bodily pain	83.70	87.64	92.36	83.15	84.66	83.85
Mental health	71.76	69.59	72.21	69.52	69.60	69.83
Social functioning	62.5	60.42	65.78	60.05	60.83	60.53
Vitality	59.71	55.97	58.95	56.01	57.67	55.88
Emotional role functioning	66.66	61.32	59.64	62.01	55.55	63.61
General health	58.52	53.92	62.36	53.47	55.77	53.89

Table 5 Mean scores for the 8 domains of the SF-36 of the study participants

SF-36 domain	Under 24 Mean (SD)	25-54yrs Mean(SD)	Above 24 Mean(SD)	Mean Scores Married	Not Married	Mean scores Job	No job
Physical functioning	84.09(19.08)	80.80(23.29)	73.85(20.01)	80.89	80.47	88.44	78.23
Physical role functioning	63.64(40.87)	61.93(44.15)	61.93(44.15)	58.93	61.92	74.44	57.74
Bodily pain	94.54(11.55)	83.75(20.90)	83.87(20.43)	82.23	84.14	89.61	82.21
Mental health	71.64(10.65)	70.23(17.05)	69.76(17.10)	65.00	70.53	72.98	68.83
Social functioning	60.22(23.59)	60.36(23.95)	60.62(23.53)	66.51	59.66	68.61	58.30
Vitality	56.36(19.63)	56.90(18.25)	56.33(18.31)	51.61	57.09	58.67	55.65
Emotional role functioning	57.57(47.35)	62.50(44.16)	62.16(44.29)	64.28	61.82	74.81	58.49
General health	51.36(17.33)	54.26(18.58)	54.07(18.22)	50.53	54.65	57.20	53.16

Table 6Themean scores of the study participants' duration of illness in the 8 domains of the SF-36

SF-36 domains	Less than 1 yr	2-5 yrs	Above 5 yrs
Physical functioning	90	86.5	79.4
Physical role functioning	75	72.50	62.15
Bodily pain	83.75	91.75	85.01
Mental health	74.00	70.40	70.48
Social functioning	81.25	64.37	60.03
Vitality	72.50	58.00	56.51
Emotional role functioning	100	71.66	61.73
General health	72.50	53.75	54.61

The study tried to determine possible correlations between substance use and quality of life of patients living with schizophrenia, independent T-test was computed for each substance use that was assessed in the study.

Regarding the use of tobacco the p value for all the domains of SF-36 were higher than 0.05 which is taken as not statically significant value, thus showing no association between the two parameters.

Alcohol usage and its association with quality of life of patients with schizophrenia has resulted in a P value that showed significant statistical value in the domains of MH and BP. Khat use showed no association with the dependent variable.

Pearson's correlation was done to determine association between the PANSS total score and SF-36 domains which indicated negative relation between the two variables with p value less than 0.05

Gender's association with the dependent variable was noted in majority of the SF-36 domains except in RF,RE and GH.

The marital status variable was used in the study in terms of being in marital relationship or not, the independent T test result didn't show any significance association between quality of life and the relationship status.

Even though the mean score of the participants showed decreasing pattern with increasing duration of illness, there was no statistically significant difference between the groups that could be demonstrated by one way ANOVA.

Occupation showed association in majority of the domains except in MH, VT and GH.

Table 7 Correlation demonestrating the independent T test os socio-demographic characteristics of the study participants in the 8 domains of SF-36

SF-36 domain	Occupation		Gender		Marital status	
	F	P	F	P	F	P
Physical functioning	10.730	.001	4.486	.035	2.536	.113
Physical role functioning	17.826	.000	1.957	.163	1.439	.232
Bodily pain	6.101	.014	4.445	.036	.006	.937
Mental health	.000	.995	3.830	.052	1.111	.293
Social functioning	5.834	.017	4.802	.030	2.414	.122
Vitality	1.352	.246	4.32	.039	.059	.808
Emotional role functioning	25.710	.000	.0682	.795	2.461	.118
General health	.298	.586	1.391	.240	.783	.377

Discussion

The finding of this study further contributes to the conclusion of researches done with similar objectives but also broadens our understanding by including the role of substance use in quality of life of patients living with schizophrenia.

Regarding the socio- demographic parameters a study done in Butajira, Ethiopia evaluated reliability and validity of SF-36 and also normative data of the population tried to compare the quality of life of the general population of the rural area of Butajira with patients living with schizophrenia of the same area and it was found to be lower in all domains of the SF-36. (Kebede, et al., 2004) Even though the setting of the study is different the quality of life of the study participants was lower compared to the general population of the rural population of Butajira. The finding is in line with other studies as normative data from Ghana also showed higher SF-36 scores compared to participants of the study. (Ainguah & Hill, 2014)

Employment status showed significant association in majority of the domains even though the MH component was not associated, it could indicate that ability to engage in activities and socializing could have an impact in the QoL of patients living with schizophrenia.

Females scored low in all the domains of SF-36 which could be related to low health care access and poor social support.

The finding of this study contradicts the finding of other researches of marital relationship being associated with the QoL of patients living with schizophrenia; a study done in Butajira in the year of 2005G.C did not find association between marital status and functional outcome of patients living with schizophrenia. (Kebede, et al., 2005) . Majority of the study participants reported living with parental family which could be a source of social support outside marital relationship. Literatures indicate problematic substance use as well as sedentary life style has an influence in QoL of patients living with schizophrenia. The study found the use of Alcohol being associated with the quality of life of patients living with schizophrenia but not Tobacco and khat. This could be due to limited number of respondents who gave positive response regarding the use of substances. The study attempted to contribute in terms of looking substance use as possible factor that is associated with QoL of patients living with schizophrenia.

The PANSS score of patients indicate the severity of illness and the result of the indicated negative association with QoL , it could be used to emphasize the impact of psychopatology in QoL.

Conclusion

Studies done worldwide showed quality of life of patients living with schizophrenia is lowered compared to the general populations. This study tried to determine possible associations between clinical factors, sociodemographic and psychosocial issues with quality of life of patients living with schizophrenia.

The study showed the variables gender and occupation had significant association in the majority of the domains; marital status however didn't show significant association in any of the domains. Alcohol use was found to have association in the domains of bodily pain and mental health. Tobacco use and khat consumption didn't show significant association in all the domains of SF-36.

The clinical indicator PANSS total score was found to have negative correlation with quality of life but the duration of illness didn't show any significant association.

Recommendation

The study tried to identify factors associated with QoL of patients living with schizophrenia. It tried to identify socio-demographic and clinical factors and the role of substance use in the quality of life. From the finding of the study possible areas of interventions in patients living with schizophrenia could be encouraging productivity, early intervention for symptom reduction and rehabilitation. The other area of focus of intervention could be working on substance abuse and addressing the issue in patient tailored manner.

Limitation of the study

The limitation of the study includes having limited number of sample size with participants having similar clinical picture, there were outliers in all the domains of the SF-36 and because of the limited sample size they were included in the analysis and there was missing data most significantly noted in the duration of illness parameter.
The study used the SF-36 questioner as a continuous dependent variable, which limited the analysis step.

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ANNEX

RAND 36-Item Short Form Health Survey (SF-36) 1.0 Questionnaire Items

This tool was developed at RAND Health as part of the Medical Outcomes Study. Reformatted with permission by RegenceRx.

Click **HERE** to access SF-36 scoring tool.

Question #	Question	Answer	Score (for MD use)
Example	**In general, would you say your health is:** Excellent (1) Very good (2) Good (3) Fair (4) Poor (5)	**4**	**25**
1	**In general, would you say your health is:** Excellent (1) Very good (2) Good (3) Fair (4) Poor (5)		
2	**Compared to one year ago, how would your rate your health in general now?** Much better now than one year ago (1) Somewhat better now than one year ago (2) About the same (3) Somewhat worse now than one year ago (4) Much worse now than one year ago (5)		

Question #	Question	Answer	Score (for MD use)
The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?			
3	**Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
4	**Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
5	**Lifting or carrying groceries** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
6	**Climbing several flights of stairs** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
7	**Climbing one flight of stairs** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
8	**Bending, kneeling, or stooping** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		

Question #	Question	Answer	Score (for MD use)
9	**Walking more than a mile** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
10	**Walking several blocks** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
11	**Walking one block** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
12	**Bathing or dressing yourself** Yes, Limited a Lot (1) Yes, Limited a Little (2) No, Not limited at All (3)		
During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?			
13	**Cut down the amount of time you spent on work or other activities** Yes (1) No (2)		
14	**Accomplished less than you would like** Yes (1) No (2)		
15	**Were limited in the kind of work or other activities** Yes (1) No (2)		

Question #	Question	Answer	Score (for MD use)
16	**Had difficulty performing the work or other activities (for example, it took extra effort)** Yes (1) No (2)		

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

17	**Cut down the amount of time you spent on work or other activities** Yes (1) No (2)		
18	**Accomplished less than you would like** Yes (1) No (2)		
19	**Didn't do work or other activities as carefully as usual** Yes (1) No (2)		
20	**During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?** Not at all (1) Slightly (2) Moderately (3) Quite a bit (4) Extremely (5)		

Question #	Question	Answer	Score (for MD use)
21	**How much bodily pain have you had during the past 4 weeks?** None (1) Very mild (2) Mild (3) Moderate (4) Severe (5) Very severe(6)		
22	**During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?** Not at all (1) Slightly (2) Moderately (3) Quite a bit (4) Extremely (5)		
	These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.		
23	**Did you feel full of pep?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		

Question #	Question	Answer	Score (for MD use)
24	**Have you been a very nervous person?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		
25	**Have you felt so down in the dumps that nothing could cheer you up?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		
26	**Have you felt calm and peaceful?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		

Question #	Question	Answer	Score (for MD use)
27	**Did you have a lot of energy?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		
28	**Have you felt downhearted and blue?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		
29	**Did you feel worn out?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		
30	**Have you been a happy person?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		

Question #	Question	Answer	Score (for MD use)
31	**Did you feel tired?** All of the Time (1) Most of the Time (2) A Good Bit of the Time (3) Some of the Time (4) A Little of the Time (5) None of the Time (6)		
32	**During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?** All of the time (1) Most of the time (2) Some of the time (3) A little of the time (4)		
How TRUE or FALSE is each of the following statements for you?			
33	**I seem to get sick a little easier than other people.** Definitely true (1) Mostly true (2) Don't know (3) Mostly false (4) Definitely false (5)		
34	**I am as healthy as anybody I know.** Definitely true (1) Mostly true (2) Don't know (3) Mostly false (4) Definitely false (5)		

Question #	Question	Answer	Score (for MD use)
35	**I expect my health to get worse.** Definitely true (1) Mostly true (2) Don't know (3) Mostly false (4) Definitely false (5)		
36	**My health is excellent.** Definitely true (1) Mostly true (2) Don't know (3) Mostly false (4) Definitely false (5)		