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Research Article

Determinants of Health-Related Quality of Life among Patients with Depression in a local Population

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Abstract

Background: Depression negatively affects the cognition, emotion, behavior, functionality, and quality of life of people and is associated with poor outcome, increased utilization of health-care resources and ultimately impacts negatively on the health systems of nations. The aim of this study therefor was to identify the determinants of health-related quality of life of patients with depression in Rivers State.

Methods: The study with approval from the relevant ethical committees was a quantitative cross-sectional study using 400 respondents diagnosed with depression recruited via a systematic random sampling. Respondents from both the UPTH Neuropsychiatry Department and the Rivers State Neuropsychiatric outpatient clinics were administered the WHOQOL-bref questionnaire. Descriptive statistics and the Pearson Correlation Coefficient were used to analyze the data using the SPSS version 24.

Results: Out of 400 respondents, 386 returned their questionnaires with a response rate of 95%. Female constituted 54%. The mean QOL score was 43, with domain scores of 54, 45, 31 and 52 for physical, psychological, social and environment domains respectively. Age, income, employment, gender and education were the identified determinants of HRQoL.

Conclusion: HRQoL is a subjective perception and is determined by a number of variables among patients with depression. Management of depression should therefore address a much as possible these variables to ensure optimal QOL.

Keywords: Determinants, Health-Related Quality of Life, Patients with Depression, local Population

Introduction

Depression is a common mental disorder with an estimated prevalence of 11% and about 322 million people currently suffering from the disease globally (WHO, 2017).

Depression is recognized as a global public health concern (WHO, 2012), the second leading contributor to the global burden of disease and projected to be first by the year 2030 [1]. If the current epidemiological transition persists, depression is predicted to account for 5.7% of the total global burden of illness by 2020, surpassing ischemic heart disease as the second greatest cause of disability [2].

Depression is a leading cause of disability globally, affecting more women than men, and in the most severe cases, can result in suicide [3].

In Nigeria, the prevalence of depression has continued to have a steady rise. Population-based surveys indicate that the lifetime prevalence of depression ranges from 10% to 15% [4]. In a study conducted more than a decade ago using an interviewer-administered structured questionnaire, and the general health questionnaire (GHQ 12) as a screening tool, the overall prevalence of depression was found to be 5.2% (Olorunfemi et al, 2007). In another study done in 2009, the lifetime prevalence of MDE was 3.1% while that of 12month was 1.1% [5].

Other studies conducted in Nigeria have reported the prevalence of depression among young adults, elderly and IDPs as 25%, 26.2% and 28.6% respectively [5-10]. In another study, 7 million people currently suffer from depression in Nigeria, with a 12-month prevalence rate of 3.9% [11,12]. In a recent cross-sectional study among students in northern Nigeria, the prevalence of depression was 58.2%, with 37.0%, 15.7%, 3.9%, and 1.6% having mild, moderate, moderately severe, and severe depression, respectively.

Depression negatively affects the cognition, emotion, behavior, functionality, and quality of life of people (WHOQOL, 1998). It is also associated with poor outcome, increased utilization of health-care resources and ultimately impacts negatively on the health systems of nations [13]. Poor quality of life results in high rates of relapse, inability to perform occupational and social activities, impaired outlook, and increased overall health care related costs [14].

Current evidence shows that the quality of life of people with depression

is highly impaired in both the developed and developing nations [15,16]. Age of patients, age of onset of depression, medication non-adherence, comorbid illness, poor social support, perceived stigma of their depressive status and family history of depression have been observed to have a statistically significant association with health-related quality of life of people with depression [17-20].

Clinical practice has largely moved from the traditional 'disease model' to the concept of 'ill-health. What matters in the 21st Century is how the patient feel and not how the clinician feels about the patient. Evaluation of the impact of health including development and validation of measures therefore must be patient-based. QOL is defined in the context of the position one occupies in the society and this has to do with the culture and value system, social demographic characteristics and socio-economic status.

Current evidence shows that the quality of life of people with depression is highly impaired in both the developed and developing nations [15,16]. Age of patients, age of onset of depression, medication non-adherence, comorbid illness, poor social support, perceived stigma of their depressive status and family history of depression have been observed to have a statistically significant association with health-related quality of life of people with depression [17,18,21,22].

Increasing data indicates that the lack of a defined treatment plan that prioritizes enhancing HRQOL is the primary reason why the number of antidepressant drugs currently on the market is being used more often.

Methods

The study with approval from the relevant ethical committees was a quantitative cross-sectional study using 400 respondents diagnosed with depression recruited via a systematic random sampling. Respondents from both the UPTH Neuropsychiatry Department and the Rivers State Neuropsychiatric outpatient clinics were administered the WHOQOL-bref questionnaire. Descriptive statistics and the Pearson Correlation Coefficient were used to analyze the data using the SPSS version 24.

Results

Out of 400 respondents, 386 returned their questionnairs with a response rate of 95%. Female constituted 54%. The mean QOL score was 43, with domain scores of 54, 45, 31 and 52 for physical, psychological, social and environment domains respectively. Age, income, employment, gender and education were the identified determinants of HRQoL.

Table 1: Analysis of Quality of life of persons living with depression on the four domains of WHOQOL-BREF based on Age

WHOQOL-BREF Domains	Age	Mean	Std. Deviation	N	Univariate F	Sig	Multivariate test(f)	Sig
Domain 1 (Physical)	less than 20yrs	55.7500	23.78741	12				
	20-29yrs	54.7100	18.73057	100				
	30-39yrs	49.9565	21.61943	138	19.62	.000		
	40-60yrs	55.8478	16.60063	92				
	more than 60yrs	27.4773	11.98349	44				
	Total	50.2098	20.65851	386				
Domain 2 (Psychological)	less than 20yrs	61.6667	25.99067	12				
	20-29yrs	51.0800	20.31752	100				
	30-39yrs	44.8261	17.80958	138	8.302	.000		
	40-60yrs	48.3478	20.69636	92				
	more than 60yrs	34.2955	13.80189 19.80620	44				
	Total	46.6088	20.90001	386				
Domain 3 (Soc. Relations)	less than 20yrs	48.9167	20.90001	12			6.008 .000	
	20-29yrs	42.5200	29.73909	100				
	30-39yrs	38.6087	19.04832	138	2.641 .034			
	40-60yrs	45.3043	23.89112	92				
	more than 60yrs	34.0000	14.55063	44				
	Total	41.0130	23.28530	386				

Domain 4 (Environmental)	less than 20yrs	48.5833	15.01186	12				
	20-29yrs	46.2000	21.07514	100				
	30-39yrs	44.8333	14.33111	138	5.992	.000		
	40-60yrs	45.7174	15.76150	92				
	more than 60yrs	32.8636	12.71072	44				
	Total	44.1503	16.95627	386				

Table 1: shows the total number of persons in each age levels, the SD and the mean scores which represents the quality of life of persons living with depression across the four domains based on the various age levels. It shows that for persons living with depression, the quality of life was above average for persons within less than 20yrs (55.7), 21-29yrs (54.7) and 40-60yrs (55.8) with persons less than 20yrs having the highest physical quality of life.

Table 2: Analysis of Quality of life of persons living with depression on the Four Domains of WHOQOL-BRIEF based on Gender.

WHO-QOL-BRIEF Domains	Gender	Mean	Std. Deviation	N	Univariate test (F)	Sig	Multivariate test (f)	Sig
Domain 1(Physical)	male	48.5093	21.34102	161				
	female	51.4267	20.11563	225	1.876			
	Total	50.2098	20.65851	386				
Domain 2 (Psychological)	male	45.6211	20.56330	161				
	female	47.3156	19.26143	225	.686	.408		
	Total	46.6088	19.80620	386				
Domain 3 (Soc. Relations)	male	39.2547	23.53781	161			810	.519
	female	42.2711	23.07310	225	1.577	.210		
	Total	41.0130	23.28530	386				
Domain 4 (Environmental)	male	43.6708	17.79529	161				
	female	44.4933	16.36119	225	.220	.639		
	Total	44.1503	16.95627	386				

Table 2: reveals the total number of persons in each gender, the SD and the mean scores which is an indication of the quality of life of persons living with depression across the four domains based on gender. It shows that for persons living with depression, the quality of life was above average for female (51.42) and less than average for male (48.50) in the physical domain aspect of quality of life.

Table 3: Analysis of Quality of life of persons living with depression on the Four Domains of WHOQOL-BRIEF based on marital status.

WHO-QOL-BRIEF Domains	Marital Status	Mean	Std. Deviation	N	Univariate test (F)	Sig	Multivariate test (f)	Sig
Domain 1 (Physical)	Single	53.6325	20.53328	166				
	Separated	54.6296	20.43780	27				
	Married	51.2553	18.30199	141				
	Divorced	32.3333	20.24846	9	9.779	.000		
	Cohabiting	51.0000	21.02380	8				
	Widowed	30.7714	18.69269	35				
	Total	50.2098	20.65851	386				
Domain 2 (Psychological)	Single	49.6325	21.85692	166				
	Separated	44.4815	13.77950	27				
	Married	46.3191	17.59477	141				
	Divorced	38.3333	20.07486	9	3.245	.007		
	Cohabiting	50.8750	21.14871	8				
	Widowed	36.2286	18.30154	35				
	Total	46.6088	19.80620	386				
Domain 3 (Soc. Relations)	Single	43.7410	26.20547	166			3.717	.000
	Separated	35.6296	13.41397	27				
	Married	40.7376	23.11575	141				
	Divorced	38.1111	17.77248	9	2.354	.040		
	Cohabiting	52.2500	16.08682	8				
	Widowed	31.5143	12.53553	35				
	Total	41.0130	23.28530	386				

Domain 4 (Environmental)	Single	46.0843	18.76793	166	6.135	.000		
	Separated	42.0000	12.99408	27				
	Married	45.1277	14.74393	141				
	Divorced	50.2222	9.33780	9				
	Cohabiting	48.6250	10.63602	8				
	Widowed	30.1143	15.33311	35				
	Total	44.1503	16.95627	386				

It shows that for persons living with depression, the Physical dimension of quality of life was above average for persons separated (mean=54.62), single (mean=53.62), married (mean=51.25), and cohabiting (mean=51.00) with those separated having the highest physical quality of life. While Persons who are widowed had physical quality of life below average (mean=30.77).

Table 4: Analysis of Quality of life of persons living with depression on the four domains of WHOQOL-BRIEF based on educational level.

WHO-QOL-BRIEF Domains	Educational Level	Mean	Std. Deviation	N	Univariate test (F)	Sig	Multivariate test (f)	Sig
Domain 1 (Physical)	none at all	40.1176	22.25547	51	7.139	.000		
	Primary	51.8929	18.68950	56				
	Secondary	47.8929	18.69015	112				
	Tertiary	54.2814	20.94654	167				
	Total	50.2098	20.65851	386				
Domain 2 (Psychological)	none at all	37.0980	17.84853	51	12.589	.000		
	Primary	39.0000	17.23527	56				
	Secondary	46.0357	16.94396	112				
	Tertiary	52.4491	21.01453	167				
	Total	46.6088	19.80620	386				
Domain 3 (Soc. Relations)	none at all	31.6667	13.42038	51	12.384	.000	11.715	.000
	Primary	31.0179	19.21883	56				
	Secondary	39.7679	22.51045	112				
	Tertiary	48.0539	25.11186	167				
	Total	41.0130	23.28530	386				
Domain 4 (Environmental)	none at all	30.6471	13.60121	51	36.749	.000		
	Primary	43.6607	14.44145	56				
	Secondary	38.1786	14.32519	112				
	Tertiary	52.4431	15.98252	167				
	Total	44.1503	16.95627	386				

It shows that for persons living with depression, the Physical and psychological domains, quality of life was above average for persons with tertiary education (mean=54.28) and persons with primary education (mean=51.89), with tertiary education having the highest physical quality of life (as well as in the other domain), while persons that did not receive any education at all and those who had received secondary education, had quality of life below average.

Table 5: Analysis of Quality of life of persons living with depression on the four domains of WHOQOL-BRIEF based on Employment Status.

WHO-QOL-BRIEF Domains	Employment Level	Mean	Std. Deviation	N	Univariate test (F)	Sig	Multivariate test (f)	Sig
Domain 1 (Physical)	Unemployed	46.2735	20.10559	117	4.014	.008		
	Employed with private	47.9659	21.40332	88				
	Employed with public	55.6338	19.18946	71				
	Self-employed	52.6909	20.71287	110				
	Total	50.2098	20.65851	386				

Domain 2 (Psychological)	Unemployed	41.4615	20.32051	117				
	Employed with private	45.3182	17.13808	88				
	Employed with public	51.1690	18.82247	71	5.378	001		
	Self-employed	50.1727	20.68943	110				
	Total	46.6088	19.80620	386				
Domain 3 (Soc. Relations)	Unemployed	37.2222	23.24944	117			5.970	.000
	Employed with private	42.7386	20.31335	88				
	Employed with public	49.2817	23.61064	71	4.805	.003		
	Self-employed	38.3273	24.14296	110				
	Total	41.0130	23.28530	386				
Domain 4 (Environmental)	unemployed	35.7692	17.39420	117				
	Employed with private	47.6705	13.42987	88				
	Employed with public	51.1831	13.65212	71	17.07	.000		
	Self-employed	45.7091	17.60179	110				
	Total	44.1503	16.95627	386				

It shows that for persons living with depression, the Physical domain of quality of life was above average for persons employed with the public (mean=55.63) and self-employed (mean=52.69), with those employed with the public having the highest physical quality of life (as well as in the other domain). While Persons that were unemployed and those employed with private had physical quality of life below average.

Table 6: Analysis of Quality of life of persons living with depression on the four domains of WHOQOL-BRIEF based on Income level

WHO-QOL-BRIEF Domains	Income level	Mean	Std. Deviation	N	Univariate test (F)	Sig	Multivariate test (f)	Sig
Domain 1 (Physical)	0-30,000	48.7755	18.45294	49				
	30-60,000	51.9941	21.43395	170				
	60-100,000	48.6424	20.50400	165	1.074	.360		
	101,000 above	63.0000	.00000	2				
	Total	50.2098	20.65851	386				
Domain 2 (Psychological)	0-30,000	45.5102	22.14453	49				
	30-60,000	45.3941	19.91410	170				
	60-100,000	48.2909	19.05480	165	.785	.503		
	101,000 above	38.0000	.00000	2				
	Total	46.6088	19.80620	386				
Domain 3 (Soc. Relations)	0-30,000	42.7959	22.34295	49			2.637	.000
	30-60,000	42.6000	26.16864	170				
	60-100,000	38.6667	20.22958	165	1.195	.311		
	101,000 above	56.0000	.00000	2				
	Total	41.0130	23.28530	386				
Domain 4 (Environmental)	0-30,000	40.2449	17.03004	49				
	30-60,000	42.8412	18.40226	170				
	60-100,000	46.7333	15.08639	165	2.600	.052		
	101,000 above	38.0000	.00000	2				
	Total	44.1503	16.95627	386				

It shows that for persons living with depression, the Physical domain of quality of life was above average for persons whose monthly income from all sources was 101,000 above (mean=64.00) and 31-60,000 (mean=51.9), with those whose income from all sources was 101,000 above having the highest physical quality of life (as well as in the other domain). While persons whose income were 0-30,000 naira and 61-100,000 naira, had physical quality of life below average.

Table 7: Analysis of Quality of life of persons living with depression on the four domains of WHOQOL-BRIEF based on Nature of illness

WHO-QOL-BRIEF Domains	Nature of illness	Mean	Std. Deviation	N	Univariate test (F)	Sig	Multivariate test (f)	Sig
Domain 1 (Physical)	Depre n others	49.1314	20.39075	236				
	Depr Only	51.9067	21.02933	150	1.658	.199		
	Total	50.2098	20.65851	386				
Domain 2 (Psychological)	Depre n Other	43.0127	17.61877	236				
	Depr Only	52.2667	21.71001	150	21.064	.000		
	Total	46.6088	19.80620	386				
Domain 3 (Soc. Relations)	Depr n others	35.7034	22.54029	236			9.923	.000
	Depr Only	49.3667	22.01781	150	34.308	.000		
	Total	41.0130	23.28530	386				
Domain 4 (Environmental)	Depre n Other	41.7881	16.51993	236				
	Depr Only	47.8667	17.02177	150	12.126	.000		
	Total	44.1503	16.95627	386				

It shows that for persons living with depression only, the quality of life was above average (51.90, 52,26)) and less than average for persons living with depression and other illness (49.13) in the physical and psychological (43.01) domains of quality of life. For the psychological domain, it shows that for persons living with depression only, the psychological quality of life was above average (52.26) and less than average for persons living with depression and other illness (43.01).

Discussion

In this study, it was observed that socio-demographic characteristics of respondents had some significant relationships with health-related quality of life.

Analysis of how the domain scores varied depending on socio-demographic characteristics yielded some interesting results. In this study, it was observed that socio-demographic characteristics of respondents had some significant relationships with health-related quality of life. Factors like; increased age, marital status (married), education, employment, average to high monthly income all positively affected health-related quality of life in this study. These results are consistent with several other studies.106,454 Previous studies have shown WHOQOL-BREF domain scores to be associated with age, education [24] and gender ([24] to differing extents in different populations. Associations of these variables with each of the domain scores were assessed by univariate and multivariate regression analysis.

Notable associations include Physical domain, psychological domain, social domain, environmental domain and Health domain scores deteriorating with age with a sligh second peak with the age group of 40-60 years and then continue to fall again. The values and findings were all statistically significant. Other studies have found association between age and physical and psychological domains only. In another study, older respondents were found to have lower Physical and Psychological quality of life although when controlling for gender, education and marital status older age was only associated with lower Physical domain scores. This disparity may be due to setting and cultural belief. As people advance in age, their expectation and values increase so also the societal expection from them also increase. When the level of responsility far outweighs the level of achievements, their may be negative impact on quality of life. Expectedly, a direct relationship may exist between physical domain and ageing as the energy requires for daily activities may continue to wane.

The finding regarding age and HRQoL was also consistent with a study conducted in Ethiopia which aimed to identify predictors of health-related quality of life of people with depression attending outpatient department, which documented that age of respondents had positive correlation with all domains of health-related quality of life. As age of respondents increased by 1 year their health-related quality of life increases by 0.34, 0.37, 0.53, and 0.44 units for physical, psychological, social and environmental domains, respectively. This finding is equally supported by a study of three European countries [25] i.e., the younger the age of study respondents was a predictor for the poorer the quality of life of their lives. This might be due to the higher tendency to come into a state of acceptance towards themselves and their lives as people become older [18].

All domain scores (Physical, psychological, social and environmental) were higher for female than male. The effect of gender was variable. Although, depression is usually more common among female which is consistent with existing literature,408,462 this did not translate into lower health-quality of life for females on all the domains of quality of life. This suggests that depression in females tended to have better prognosis compared with males. From the study, females performed better on all domains and overall health-related quality of life. This might be due to their better health-seeking behavior. Secondly, the obvious fact that depression is usually associated with better prognosis in females, might have contributed to their better Quality of Life.

All domain scores higher in those with tertiary education; psychological and social domains progressively increase as the level of education increases, however, the increase in domain scores for physical and environmental domains were not entirely progressive as those with primary education scored higher than those with secondary education. This finding was consistent with other study that has documented that a higher level of educational attainment was found to be associated with higher quality of life in all domains except for Social Relationships and these associations (except for that with Environment domain scores) held constant after controlling for the other socio-demographic variables.

The positive relationships between education (especially tertiary) and domain scores (Physical, Psychological and Overall, after controlling for other significant variables) are also interesting. It's possible that these relationships are mediated by better education leading to higher earnings, which may lead to better health and higher quality of life. This finding is also consistent with other recent studies in poor rural communities in older adults also show lower self-reported health and quality of life in those

with lower education and lower socio-economic.

It is also interesting to note that the correlation between age and education is highly statistically significant and negative (Pearson's correlation = −0.4), meaning that older respondents may have attained a lower level of education as may perhaps be expected given recent advances in access to education in Nigeria.

Physical, Psychological, social and Environmental domains scores were found to be higher in those who were single (compared to married) while those living as married who additionally have higher domain scores on all domains (Table 4.22). Respondents living as married or single were found to have higher health-related quality of life in the Physical, Psychological and Social domains, and those who were widowed lower Physical, psychological, social and environmental domains. The subtle amount of independence and freedom associated with singlehood and living as married with possible increased social life may have accounted for the higher health-related scores for them in all domains. Widowhood may be a strong depressogenic factor with enormous negative impact on emotion. This may result in reduction in health-related quality of life.

Unemployment is associated with a high degree of negative emotions and constitutes a serious psychosocial stressor and and important depressogenic factor. In this study, unemployment was associated with lower health-related quality of life on all domains and the general health facet. The relationship between employment status and health-related quality of life was statistically significant for both univariate and multivariate analysis on all domains. Being gainfully employed is a connotes better socio-economic status and hence better HRQoL. Employment provides the source of lifelihood. Respondents who were employed with the public sector tended to score higher on all domains compared to those employed in private sector (Table 4.24).

Standard policy guidelines stipulating the rights, prevelages, benefits and entitlement of workers in the public sector may be adhered to more compared to the private sector where the employer-emplyee relationship may be ill-defined and as such may not be very protective of the employee. This may inturn affect the overall health-related quality of life of those employed in the private sector. Respondents who were self-emplyed scored a little lower than those employed in public sector in physical domains and those employed in both private and public sectors on social and environmental domians, while it had the best performace on the psychological domain. This may be due to the actual or perceived feeling that the respondents may have for working for him or herself.

From the study, income level had a steady positive relationship with health-related quality of life on all domains (table 4.25). However, the relationship did not remain steady for psychological and environmental domains. Income is a strong determinant of socio-economic status, hence equally a determinant of health-related quality of life.

These findings of the correlation between socio-demographic characteristics and HRQoL suggested that a good number of psychosocial factors affected the outcome of HRQoL among patients with depression. The implication of this is that these factors have to be addressed in the holistic management of depression, other psychological and indeed other chronic conditions, because when they are favorable, the severity of depressive illness tended to reduce, which consequently improves the HRQoL of the sufferers.

Conclusion

These findings of the correlation between socio-demographic characteristics and HRQoL suggested that a good number of psychosocial factors affected the outcome of HRQoL among patients with depression. The implication of this is that these factors have to be addressed in the holistic management of depression, other psychological and indeed other chronic conditions, because when they are favorable, the severity of depressive illness tended to reduce, which consequently improves the HRQoL of the sufferers.

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