ISSN: 2476-8642 (Print)
ISSN: 2536-6149 (Online)
www.annalsofhealthresearch.com
African Index Medicus, Crossref, African Journals Online, Scopus, C.O.P.E & Directory of Open Access Journals

Annals of HEALTH RESEARCH

(The Journal of the Medical and Dental Consultants' Association of Nigeria, OOUTH, Sagamu, Nigeria)

Volume 11 | No. 1 | Jan - Mar., 2025

IN THIS ISSUE

PUBLISHED BY THE MEDICAL AND DENTAL CONSULTANTS ASSOCIATION OF NIGERIA, OOUTH, SAGAMU, NIGERIA.
www.mdcan.oouth.org.ng

Annals of Health Research
(The Journal of the Medical and Dental Consultants Association of Nigeria, OOUTH, Sagamu, Nigeria)

Volume 11, Issue 1: 29-39
March 2025
doi:10.30442/ahr.1101-04-268

ORIGINAL RESEARCH

Quality of Life and Mental Illnesses among the Elderly in Ogun East Senatorial District, Nigeria

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Citation: Omotosho AY, Fasesan OA, Adefala NO, Osinaike AO, Okwudishu OT, Okoro NE, *et al.* Quality of Life and Mental Illnesses among the Elderly in Ogun East Senatorial District, Nigeria. Ann Health Res 2025;11:29-39. https://doi.org/10.30442/ahr.1101-04-268.

Abstract

Background: In Nigeria, about a quarter of the population is afflicted with mental illnesses, and 3.26% of this population is made up of old people aged 65 years and above. The economic burden affiliated with mental illness includes health care costs, decreased productivity, and diminishing health-related quality of life (QoL). However, there is a paucity of data on mental illness and its relation to the QoL experienced by the elderly.
Objectives: To determine the prevalence of good and poor QoL and assess the relationship between mental illnesses and the QoL among the elderly in Ogun East Senatorial district.
Methods: This study was a community-based, cross-sectional survey targeting elderly individuals. A total of 402 participants were selected through multistage sampling and interviewed using semi-structured questionnaires.
Results: The prevalence of mental illness among the respondents was 35.8%. Among the mental health conditions, generalised anxiety disorder (GAD) was the most common finding (15.4%), followed closely by current alcohol dependence (14.9%). One hundred and fifty-two (37.8%) of the elderly had good QoL. The mental illnesses found to be statistically significant in association with poor QoL were current major depressive episodes, recurrent major depressive episodes, and current psychotic disorders.
Conclusion: This research highlights a significant prevalence of mental illness at 35.8% and poor quality of life at 37.8%. Additionally, major depressive episodes and psychotic disorders were notably linked to poor quality of life, emphasizing the need for targeted mental health interventions among the elderly emphasizing the need for targeted mental health interventions among the elderly.

Keywords: Alcohol dependence, Anxiety, Depression, Elderly, Mental Illnesses, Quality of Life.

Introduction

Mental health is defined as "a state of well-being in which every individual realises his or her potential, can cope with the normal stresses of life, can work productively and fruitfully, and can contribute to his or her community".[1] Poor mental health affects people's ability to live a meaningful life, work, and familial responsibilities, as well as leading to physical and social problems with severe impacts.[2] WHO defines quality of life (QoL) as an individual's perception of their position in life in the context of the culture and value systems in which they live and concerning their goals, expectations, standards and concerns.[3]

There has been a change in the world recently that favours the well-being and longevity of elderly individuals more than the younger generations, which is likely to cause the population of the elderly to triple between 2010 and 2050.[4] This trend is expected to occur in developing countries.[4] This is a good health achievement in recent times, which inevitably comes with its attending challenges such as chronic diseases, loss of independence and depletion in quality of life that will need to be attended to.[5] Over a fifth of the elderly people have mental disorders which constitute almost 10% of Disability-Adjusted Life Years (DALY) and nearly a fifth of Years Lived with Disability (YLD).[6] Elderly individuals with mental disorders experience the lowest Quality-Adjusted Life Years (QALY).[7] The economic burden affiliated with mental illness includes healthcare costs, decreased productivity, and diminishing health-related QoL.[8]

According to WHO, QoL is assessed across five key domains: physical, psychological, social, environmental, and spiritual. These domains are particularly relevant when evaluating the impact of mental illnesses on overall well-being.[9] A study on loneliness, resilience, mental health, and QoL in old age revealed that high levels of mental distress had an inverse relationship with resilience and QoL in the elderly.[10] Another study on factors associated with QoL in patients with depression revealed that old age and mental health challenges were significantly associated with poor QoL.[11] A review study on depression and QoL in older persons showed that depression was associated with poor QoL, and the association was found to be consistent over time regardless of how the QoL was assessed.[12] A comparative study on the QoL and physical activity among older adults living in institutions compared to the community revealed that older people living there have a better QoL than their institutionalised counterparts.[13] A study on the mental disorders among dwellers of government-owned Old People's Homes (OAH) in Delhi, India, demonstrated a psychiatric morbidity profile among the residents and showed that over 90% of the people manifested mild to moderate anxiety symptoms. In comparison, over 80% were found to have mild to moderate depression; other manifestations were mild and moderate psychotic illnesses, psychological distress, cognitive impairments, and poor QoL.[14] The increased prevalence of psychiatric morbidity in the elderly is associated with impairment in the QoL, depleted functional autonomy, increased comorbidity, and mortality.[15]

There is a paucity of information regarding the study of QoL and mental illnesses among the elderly; indeed, there is no known information in Ogun East Senatorial district in Nigeria. This study aimed to determine the prevalence of good and poor QoL and assess the relationship between mental illnesses and QoL among the elderly population in the district.

Methods

Study area

The study was conducted in Ogun East Senatorial District of Ogun State of Nigeria, located in southwestern Nigeria.[16] The percentage of the population that is elderly (60 years and above) is 5.85%.[17] There are 20 local government areas (LGAs), three senatorial districts, and nine federal and 26 state constituencies.[18] Ogun East Senatorial district is one of the three senatorial districts in Ogun State with nine LGAs. The last census in 2006 for Ogun East Senatorial put the population at 1,250,435, and this has been projected to be 1,739,300 in 2016.[16]

Study design

It was a community-based cross-sectional study. This was carried out over about eight months, from 08 January to 30 August 2021.

Study population

The study population consisted of elderly individuals aged 60 years and above residing in the Ogun East Senatorial District. This group is estimated to comprise approximately 102,000 people, representing 5.85% of the total population.[17]

Inclusion criteria

Elderly individuals aged 60 years and above who have lived in the Ogun East Senatorial District for at least six months.

Exclusion criteria

Elderly individuals with severely frail health, those with hearing impairments or communication difficulties, and those suffering from acute illness at the time of the interview.

Sample size determination

The minimum sample size required to ensure the validity of this study's findings was calculated using Cochran's formula for estimating prevalence, as follows:[19]

$n = Z^2 pq/d^2$

where n = minimum sample size

Z = normal standard deviate at 95% confidence interval = 1.96

p = prevalence of the characteristics of the study (mental illness among the elderly) =36.3%[20]

q = 1-p

d = acceptable margin of sampling error (0.05)

n = (1.96) (1.96) (0.363) (0.637) / (0.05) (0.05) = 355.32 ~ 356

Considering the non-response factor of 10% of the calculated sample size, the final sample size was increased to: 396

Sampling technique

A six-stage multistage sampling technique was employed:

Stage 1: A simple random sampling method (by balloting) was used to select three out of the nine Local Government Areas (LGAs) in Ogun East Senatorial District. The selected LGAs were Odogbolu (rural), Ijebu Ode (urban), and Sagamu (urban).

Stage 2: Simple random sampling by balloting was used to select two wards from each of the three chosen LGAs. A proportionate allocation determined the number of participants from the six selected wards. The wards selected were Ibefun and Ososa (Odogbolu LGA had 94 respondents), Odo-Esa and Isiwo (Ijebu Ode LGA had 117 respondents), and Ayegbami/Ijoku and Surulere (Sagamu LGA had 191 respondents). These numbers were derived by applying the population percentages of each LGA to the total population of 749,300 (with Odogbolu, Ijebu Ode, and Sagamu LGAs having populations of 174,800, 218,600, and 355,900, respectively).

For Odogbolu LGA: (174,800 ÷ 749,300) × 402 = 93.78 ≈ 94

For Ijebu Ode LGA: (218,600 ÷ 749,300) × 402 = 117.26 ≈ 117

For Sagamu LGA: (355,900 ÷ 749,300) × 402 = 190.95 ≈ 191

Stage 3: Streets in each ward were numbered, and simple random sampling by balloting was used to select streets. A total of 134 streets were selected: 31 from Ibefun and Ososa (Odogbolu LGA), 39 from Odo-Esa and Isiwo (Ijebu Ode LGA), and 64 from Ayegbami/Ijokun and Surulere (Sagamu LGA).

Stage 4: Simple random sampling by balloting was used to select houses. Three houses were chosen from each of the 134 streets, yielding a total of 402 houses. Random selections were made as the survey was carried out. Three houses were selected from the selected streets. The houses on the streets were numbered, and three of them were selected by simple random sampling via balloting.

Stage 5: In households with multiple units, simple random sampling by balloting was used to select one household for inclusion in the study. If no eligible elderly individuals were present in the selected household, the next eligible household was chosen.

Stage 6: In single-household houses, eligible elderly individuals were interviewed. If more than one elderly person was present, one individual was selected for the interview using simple random sampling by balloting.

Data collection tools

The data were collected using questionnaires with items summarised below:

Section A*:* This section gathered information on the sociodemographic details of the elderly respondents, including their bio-data such as age, sex, marital status, family structure, ethnicity, religion, and other relevant characteristics.

Section B: Psychiatric morbidity, dementia screening, and diagnosis of mental illnesses assessed with the underlisted tools:

***(i) General Health Questionnaire* (GHQ) 12**

The GHQ-12 is a widely used screening tool for detecting psychiatric disorders.[22] In this study, a threshold score of 12 was applied. Scores below 12 indicated no signs of mental distress, while scores above 12 suggested the presence of mental distress. Elderly individuals scoring above the threshold were further assessed using the IDEA and MINI Plus tools.

***(ii) Identification and Intervention for Dementia in Elderly Africans* (IDEA)**

The IDEA is a validated tool for screening cognitive impairment among elderly populations in Nigeria, especially those with limited formal education, thus reducing bias.[23] It consists of six items, with a total score ranging from 0 to 15. A score of up to 7 indicates cognitive impairment, while a score of 8 and above suggests no cognitive impairment.[23]

***(iii) Mini International Neuropsychiatric Interview* (MINI)**

The MINI Plus is a structured interview designed for diagnosing major psychiatric disorders according to the DSM-IV and ICD-10 criteria.[24] Its brevity makes it suitable for everyday clinical practice. In this study, the MINI Plus was used to confirm psychiatric diagnoses in elderly individuals who exceeded the GHQ-12 threshold and required further evaluation.

Section C: WHO Quality of Life-Age

The WHO QoL-Age tool, validated by the World Health Organization, was used to assess the quality of life (QoL) of elderly respondents.[25] It was chosen for its specificity in measuring QoL in individuals aged 50 and above, its concise nature, and its applicability to general population studies.[26] The tool is divided into four parts, addressing the respondent's feelings about their general QoL, physical health, daily activities, life experiences, and relationships. It includes 13 positive statements rated on a five-point Likert scale. The total score ranges from 13 to 65, with a score below 39 indicating poor QoL and a score above 40 indicating good QoL. The tool has a Cronbach's alpha reliability score of 0.892.

Data collection method

The researcher and trained assistants conducted quantitative data collection through interviewer-

administered questionnaires. The research assistants selected for this study were medical residents specialising in psychiatry. They were fluent in both English and Yoruba, had prior experience with survey data collection, and demonstrated a strong interest in psychiatric studies and elderly care. During the process, field supervisors ensured the completeness and consistency of all questionnaires. The questionnaire was translated into Yoruba and back-translated to English to ensure validity.

Study variables

The primary outcome variable was the quality of life among the elderly. The independent variables included sociodemographic, biological, psychosocial factors, and mental health conditions in the elderly.

Data analysis

All data were coded and entered into a database. The data entry was verified to identify and correct any mismatches, and the questionnaires were checked for errors and cleaned. Information from the questionnaires was analysed using IBM SPSS Statistics version 22.0. The types of mental illnesses were presented in proportion and frequency tables. The association between mental illness and the quality of life was analysed using the Chi-Squared test and logistic regression. The confidence interval was set at 95%, and a *P*-value of <0.05 was considered statistically significant.

Ethical consideration

Ethical approvals were obtained from the Ogun State Health, Planning, Research and Statistics Board (HPRS/381/347) and Babcock University Health Research and Ethics Committee (BUHREC 392/20). Written informed consent was obtained from all participants. Anonymity was maintained by using serial codes to identify the data collection tools, ensuring privacy.

Constraints in the study

As a vulnerable group, some elderly participants expressed concerns about abuse and privacy, which caused reluctance to consent to interviews. Reassurances were provided about maintaining confidentiality and privacy. In some instances, the presence of a trusted third party (usually a known person to the participant), approved by the participants, was allowed during interviews to make them feel more comfortable.

Results

A total of 402 elderly respondents participated in the study, with a 100% response rate. Of these, 139 (34.6%) were aged 60–69 years. The mean age was 75.44±10.50 years. There were 218 (54.2%) females. The majority of respondents were of Yoruba ethnicity (338; 84.1%) and Christian faith (259; 64.4%). Most of them were either married (228; 56.8%) or widowed (161; 40.0%), and 249 (61.9%) belonged to monogamous families, compared to 153 (38.1%) from polygamous families. A total of 140 respondents (34.8%) had completed primary education, while 98 (24.4%) had no formal education (Tables Ia and Ib).

Out of the 402 respondents, 250 (62.2%) screened negative for mental distress on the GHQ-12, while 152 (37.8%) screened positive. The mean score on the scale was 8.87±4.62. After further evaluation with the Mini-Mental State Examination, 144 respondents were diagnosed with one or more mental illnesses, resulting in a prevalence of 35.8%. Of the 152 initially screened for mental distress, 8 were found not to have any mental illness upon further assessment. The most prevalent mental illness was generalised anxiety disorder (15.4%), while the least prevalent disorders (past hypomanic episode, current hypomanic episode, and past manic episode) each had a prevalence of 0.2% (Table II).

The majority of the respondents (62.2%) had a poor quality of life while the rest (37.8%) had a good quality of life.

Table Ia: Sociodemographic Characteristics of the Elderly (n=402)

Variable	*Frequency*	*Percentage*
Age		
60-69	139	34.6
70-79	130	32.3
80-89	83	20.7
90 and above	50	12.4
Sex		
Male	184	45.8
Female	218	54.2
Ethnicity		
Yoruba	338	84.1
Hausa	15	3.7
Ibo	41	10.2
Others	8	2.0
Religion		
Christianity	259	64.4
Islam	137	34.1
Traditional	6	1.5
Others	0	0
Marital Status		
Single, never married	5	1.2
Married	228	56.8
Divorced	6	1.5
Separated	2	0.5
Widowed	161	40.0

Table III shows that the current major depressive episode ($p = 0.004$), recurrent major depressive episode ($p = 0.042$), current psychotic disorder ($p = 0.019$), and prevalence of mental illness ($p<0.001$) were statistically significant in their association with poor quality of life in the elderly.

Discussion

Over one-third of elderly respondents in this study fell within the 60-69 age range, with just over 10% aged 90 and above. This distribution is consistent with findings from a similar study on psychiatric morbidity among elderly residents in Abeokuta, Nigeria, which also found a majority in the 60-69 age bracket.[20] This is likely due to the comparable geographical area. However, while nearly half of the respondents in that study fell within this age group, this study observed about a third.

More than half of the respondents were female, aligning with trends in related studies.[20],[27] The predominant ethnic group was expectedly Yoruba, since Yoruba is the major ethnic group in Ogun State.[28] Additionally, over 60% of respondents identified as Christian, with Muslims making up about a third, reflecting the major religions of the region. Regarding marital status, over half of the respondents were married, with about 40% widowed, which is typical given

the study's focus on elderly populations, which was noticed in some studies.[27]

Table Ib: Sociodemographic Characteristics of the Elderly (n=402)

Variable	*Frequency*	*Percentage*
Family Type		
Monogamous	249	61.9
Polygamous	153	38.1
Highest Level of Education		
No formal education	98	24.4
Arabic education only	10	2.5
Completed Primary	140	34.8
Completed Secondary	92	22.9
Completed Tertiary	62	15.4
Employment Status		
Currently employed	87	21.6
Retired	315	78.4
Monthly income in naira (₦)		
≤50,000	297	73.9
50,000	105	26.1

Table II: Psychiatric morbidity in the elderly (n= 402)

Variable	*Yes n (%)*	*No n (%)*
Mental distress (GHQ-12 score)	152 (37.8)	250 (62.2)
Cognitive impairment (dementia)	7 (1.7)	395 (98.3)
Major depressive episode, current	35 (8.7)	367 (91.3)
Major depressive episodes, recurrent	23 (5.7)	379 (94.3)
Dysthymia, current	12 (3.0)	390 (97.0)
Hypomanic episode, past	1 (0.2)	401 (99.8)
Hypomanic episode, current	1 (0.2)	401 (99.8)
Manic episode, past	1 (0.2)	401 (99.8)
Manic episode, current	11 (2.7)	391 (97.3)
Panic disorder, lifetime	22 (5.5)	380 (94.5)
Limited symptoms of attacks, lifetime	19 (4.7)	383 (95.3)
Panic disorder, current	8 (2.0)	394 (98.0)
Agoraphobia, current	9 (2.2)	393 (97.8)
Generalised social phobia, current	8 (2.0)	394 (98.0)
Non-generalised social phobia, current	3 (0.7)	399 (99.3)
Post-traumatic stress disorder, current	36 (9.0)	366 (91.0)
Alcohol dependence, current	60 (14.9)	342 (85.1)
Alcohol abuse, current	16 (4.0)	386 (96.0)
Substance dependence, current	13 (3.2)	389 (96.8)
Substance abuse, current	6 (1.5)	396 (98.5)
Mood disorder with psychotic features, lifetime	7 (1.7)	395 (98.3)
Mood disorder with psychotic features, current	15 (3.7)	395 (96.3)
Psychotic disorder, current	31 (7.7)	371 (92.3)
Psychotic disorder, lifetime	10 (2.5)	392 (97.5)
Generalised anxiety disorder, current	62 (15.4)	340 (84.6)
Prevalence of mental illness	144 (35.8)	258 (64.2)

Table III: Factors associated with the Quality of Life in the elderly

Variable	*Odds ratio*	*95% confidence interval*	*p-value*
Current major depressive episode			
Yes	8.571	1.956-37.561	0.004
No	1.000		
Recurrent major depressive episode			
Yes	0.212	0.047-0.947	0.042
No	1.000		
Lifetime panic disorder			
Yes	3.078	0.237-40.014	0.390
No	1.000		
Current mood disorders with psychotic features			
Yes	0.000	0.000-0.999	0.998
No	1.000		
Current psychotic disorder			
Yes	0.225	0.065-0.786	0.019
No	1.000		
Prevalence of mental illness			
Present	2.584	1.643-4.064	<0.001
Absent	1.000		

The majority were in monogamous families, likely influenced by the large Christian demographic. Roughly one-third of the respondents had completed at least primary education, differing from a study on retirees in North Central Nigeria, where nearly half had attained tertiary education.[29]

The study found that the prevalence of mental illness was slightly over a third, aligning with WHO research indicating that more than one-fifth of the elderly experience psychiatric morbidity.[6] Also, a study on the prevalence and pattern of psychiatric morbidity among community-dwelling elderly populations in Abeokuta, Nigeria showed that about a third of the participants had probable disorder.[20] A European study on mental disorders in older adults reported that nearly a quarter of the elderly currently had a mental disorder.[30] This lower prevalence in Europe could be attributed to the region's status as a developed area with robust and well-executed social support systems for the elderly.[31] Consequently, older individuals in Europe are less likely to face stressors that may contribute to mental health issues.

Of all the mental illnesses, generalised anxiety disorder (GAD) ranked the highest, followed by current alcohol dependence and current major depressive episodes, while past hypomanic episodes, current hypomanic episodes, and past manic episodes ranked the lowest. A study done in Europe and Israel on anxiety disorders in old age, psychiatric comorbidities, QoL, and prevalence according to age, gender, and country revealed that the prevalence of anxiety disorders was nearly one-fifth. Agoraphobia, panic disorder, general anxiety disorder, and social phobia had the following respective prevalence of 4.9%, 3.8%, 3.1%, and 1.3% which revealed lower prevalence values for panic disorder, generalised anxiety disorder, and social phobia

but higher for agoraphobia.[32] These differences could be due to differences in the sampling method and the study population done across continents with people of different races and cultures, even though both studies were community-based.

Three-fifths of the respondents had poor QoL while the remaining had good QoL. There is a dissimilarity in the distribution of the QoL from a study on the determinants of QoL of elderly patients attending a general practice clinic in southwest Nigeria, which revealed that a quarter had a good QoL.[33] The lower percentage reported may be because the study was a medical facility-based study where elderly people needed medical help. There was a significant association between mental illness and the QoL among the elderly in this study. This is similar to the finding in a European study on the QoL, level of functioning, and its relationship with mental and physical disorders in the elderly, which revealed that respondents with mental illnesses had poorer QoL and level of functioning.[34]

The mental illnesses found to be significantly associated with poor QoL were current major depressive episode, recurrent major depressive episode, and current psychotic disorder. A community-based study on depression, functional disability, and QoL among Nigerian older adults, revealed that depression had a significant but inverse correlation with the QoL of the respondents.[35] These agreements are expected as mental health and QoL have been known to share a linear and consistent relationship both in clinical and community settings.[12] Both good and poor mental health can positively or negatively impact the QoL, respectively. For some, the severity of symptoms can depict the extent of deficit experienced in the overall QoL.

Conclusion

The prevalence of mental illness and poor QoL were high among the community-dwelling elderly respondents of the Ogun East Senatorial district in Nigeria. Mental illnesses significantly associated with poor Quality of Life (QoL) include current major depressive episodes, recurrent major depressive episodes, and current psychotic disorders.

Authors' Contributions: OAY conceived and designed the study. OAY and OJO drafted the manuscript, while OAY, FOA, and OOT revised it for sound intellectual content. All the authors analysed and interpreted the data, and OAY, FOA, ANO, and OAO approved the final version of the manuscript.
Conflicts of Interest: None.
Funding: Self-funded.
Publication History: **Submitted** 29 January 2025; **Accepted** 20 March 2025.

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