

Research Article

Psychogeriatric Problems Seen in the Primary Care Arm of a Tertiary Hospital in Calabar, South-South Nigeria

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Abstract

Introduction: Mental health problems in the elderly are protean and are often under diagnosed and poorly treated. This study sought to identify common psychogeriatric problems in our setting and the factors associated with mental health challenges in elderly patients attending our Geriatric Outpatient Clinic.

Materials and Methods: This work was carried out in the Family Medicine Geriatric clinic of the University of Calabar Teaching Hospital in the South-South geo-political region of Nigeria. It had an analytical cross-sectional study design. Three hundred and twenty subjects were recruited for the study by systematic random sampling. Tools used for the study included the Geriatric Depression Scale, Generalized Anxiety Disorder Scale, and Mini-Mental State Examination.

Results: Of the 320 subjects recruited, 138 (43.1%) were males and 182 (56.9%) females. Depression - 186(58.1%) was the commonest mental health problem in this study and some of the factors that were significantly associated with it were: female gender ($p=0.010$) and marital status ($p=0.036$). Independent predictors of mental health problems were: living arrangement (those living with family were less likely to have mental health problems [OR: 0.215, $p=0.019$]) and level of education (those who had at least secondary level of education were less likely to have mental health problems [OR: 0.435, $p=0.025$]).

Conclusion: This study remarkably identified modifiable factors associated with mental health problems in the aged in our experience. The report should stimulate the desire to proffer intervention strategies to reduce these problems and generate more interest in research in this regard in our environment.

Keywords: Elderly Mental Health Care; Geriatric Mental Health; Psychogeriatric in Primary Care

Background

The rising number of the elderly is now a global phenomenon, and this is associated with the expected increase in age-related health problems including mental illness [1]. Psychogeriatrics deals with the full range of mental derangements and their consequences. This poses a significant challenge to all societies. In Nigeria, the elderly are regarded as persons 60 years old and above; and they constitute about 4% of the total population with an estimated growth rate of 2.5% [2]. This has serious implications

for Nigeria's economic and social structures including significant burden on health care.

The Family Physician offers primary medical care and in our setting, s/he is the first recipient of all manner of patients presenting in the hospital. Recognizing psychogeriatric problems as mental health issues in the elderly that must be studied with a view to proffering prevention modalities and treatment is paramount in the care processes of this practitioner. The elderly is more prone to psychological problems with depression being the most common mental health problem in this population [3]. Depression is a serious public health concern especially in the elderly population. Various life events impact one's psychological status with several

factors increasing the risk of depression in the elderly. These factors include genetic susceptibility, functional limitations, increased morbidity, low socioeconomic status, adverse life events such as bereavement, social isolation, divorce, and lack of adequate social support [3]. The World Health Organization estimates that the overall prevalence of depressive symptoms among the elderly varies between 10-20% depending on the cultural situation [4]. Depression and other mental health problems cause significant distress to the individual and the family.

Dementia is also one of the most common mental health problems and is a major cause of Disability in elderly people [1]. Dementia is a complex syndrome characterized by global and Irreversible cognitive decline that affects daily functioning [1]. It has adverse effects on daily Functioning and quality of life. Mild Cognitive impairment is less severe than dementia and Normal daily function and independence is generally maintained [1]. Cognitive impairment is a chronic condition that is a precursor to dementia in up to one-third of cases [1]. Anxiety symptoms in the elderly generally occur in conjunction with other medical disorders like cardiovascular Disease. Assessing whether anxiety symptoms are pre-existing, part of a medical problem, or a Psychosocial response to the medical problem or other stressors, are a challenge to the health Professional. However, the duration and intensity of symptoms helps to identify psychopathology. Given the projected increase in the population of the elderly and the current socioeconomic challenges in Nigeria, the health and social burden of mental health problems are expected to increase.

Materials and Methods

Study Site

The study was conducted in the Geriatric clinic of the Family Medicine Department, University of Calabar Teaching Hospital (UCTH), Calabar, in the South-South geo-political region of Nigeria. The Clinic is run by Family Physicians and offers primary care services to all patients 60 years and older. Those that may require specialist care are appropriately referred to other specialty clinics within this tertiary healthcare delivery facility.

Study Population

The subjects in this study were selected from patients attending the above-named Geriatric Clinic, irrespective of their presenting complaints. Three hundred and twenty (320) consenting subjects aged 65 years and above were recruited over a period of three months by systematic random sampling. This study population was derived from the Leslie and Kish single proportion formula for populations less than 10,000. Very ill patients were excluded from the study.

Study Design

This was a hospital-based analytical cross-sectional study.

Sampling Method

Recruitment of eligible subjects was achieved through

systematic random sampling of patients attending the clinic until the calculated sample size of 320 subjects was attained.

Study Protocol

Every eligible subject was interviewed and systematically examined in consulting rooms that provided optimal comfort and privacy. Interviewer administered questionnaires were used to obtain data for the study. The first part of the questionnaires obtained information on socio-demographic data, history, general clinical status and any significant co-morbidities. The subjects' functionality in Activities of Daily Living (ADL) were assessed using the Barthel's index. Depression was assessed using the Geriatric Depression Scale (GDS), Cognitive function was assessed using the Mini-Mental State Examination (MMSE), while Anxiety disorder was assessed using the Generalized Anxiety Disorder Scale (GADS). These are validated tools that are widely used in clinical populations. Thorough physical examinations were performed on the subjects and this included assessment of nutritional status and neurological assessment. This was done by the researchers.

Data Analysis

Data collected was analyzed using the Statistical Package for Social Sciences (SPSS) version 20 software. Descriptive statistics were used to summarize demographic data which were expressed as frequencies, percentages, means and standard deviations using tables. Chi-square test was used to determine associations between categorical data. Multivariate logistic regression was used to determine predictor variables while the level of significance was set at 0.05.

Ethical Considerations

Permission to conduct the study was obtained from the Head, Department of Family Medicine and the Health Research and Ethics Committee of the UCTH, Calabar. Privacy and confidentiality of the subjects were maintained during the study. A written informed consent was formally obtained from each subject before enrolment in the study.

Results

Table 1 shows the socio-demographic characteristics of the study subjects. The male to female ratio of the study subjects was 1:1.3. The overwhelming number of Christians over the Muslims was predicated on the region where the study was done in Nigeria, as the Southern part of the country has a large Christian base. The ratio of subjects whose ages spanned 65 to 74 and those ≥ 75 was 5.6:1. Comparing widowed subjects to the married, the ratio was 1:1.2. The Hospital is located in the midst of the Efik-speaking people of Calabar; and the Ibibios of the neighbouring Akwa Ibom State are close neighbours, hence the preponderance of the former followed by the latter. Many of the elderly people of today in the study environment did not have the privilege of going to school in their early life, as schools were not available at that time, hence the recorded high level of subjects with no education (19.1%) in this internet-age.

Variable	Frequency	Percentage (%)
Gender		
Male	138	43.1
Female	182	56.9
Age group/years		
65-74	279	87.2
75-84	40	12.5
≥85	1	0.3
Marital status		
Married	174	54.3
Separated	4	1.3
Widowed	142	44.4
Tribe		
Annang	14	4.4
Efik	133	41.6
Ekoi	44	13.8
Hausa	3	0.9
Ibibio	69	21.6
Ibo	41	12.8
Yoruba	11	3.4
Others*	5	1.5
Religion		
Christianity	316	98.7
Islam	4	1.3
Highest level of education		
None	61	19.1
Primary	60	18.7
Secondary	101	31.6
Tertiary	98	30.6
Location		
Rural	54	16.9
Semi-urban	66	20.6
Urban	200	62.5
Others* include Kalabari, Okrika, Urhobo		

Table 1: Socio-demographic characteristics of study subjects (N=320).

Figures 1a and 1b show the prevalence of mental health problems among the study subjects. The most common was depression (58.1%), followed by cognitive impairment (49.1%), then anxiety disorder (44.7%). Comparing subjects with Anxiety disorders (44.7%) with those that had Cognitive impairment (mild and moderate) {37.5 + 11.6 = 49.1%} and thirdly with Depression (58.1%) yielded a ratio of 1:1.1:1.3 in that order of prevalence. The prevalence of those who had the coexistence of depression, anxiety disorder and cognitive impairment was 23.7%; those who had both anxiety and cognitive impairment were 26.6%. Depression and

cognitive impairment alone coexisted in 33.1% of the elderly, while 34.7% had both depression and anxiety disorders. (Figure 1b).

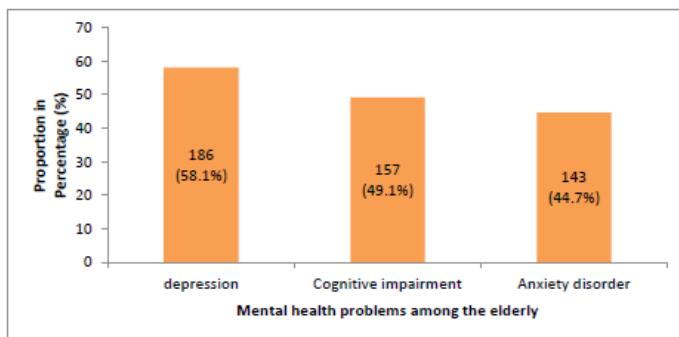


Figure 1a: Prevalence of mental health problems among study subjects.

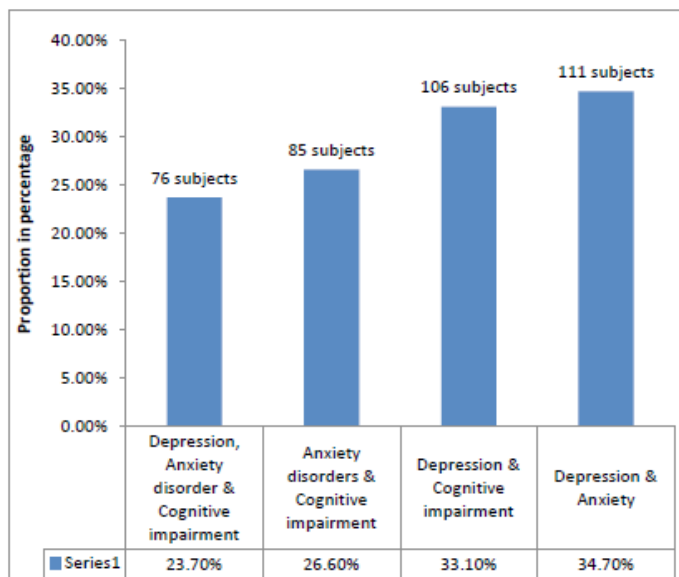


Figure 1b: Prevalence of co-existent mental health problems.

Table 2 shows the factors associated with depression among the study subjects. The proportion of female subjects who had depression was higher compared with their male counterparts (64.3% versus 50.0%). This difference was statistically significant (p=0.010). Marital status was associated with depression as more of those separated (75.0%) had depression, followed by those who were widowed (65.5%) compared with the proportion of subjects who were still married (51.7%). This relationship between depression and marital status was statistically significant (p=0.036). The relationship between depression and living arrangement was also statistically significant (p=0.025), as the proportion of the subjects living alone that had depression was significantly higher, compared with those living with family and had depression (84.2% versus 56.3%). There was an inverse relationship between those that attained higher levels of education and depression in the study subjects. The proportion of those who had depression decreased steadily with increasing levels of education. This association

was statistically significant ($p=0.003$). The relationship between depression and age group ($p=0.438$), occupation ($p=0.189$), religion ($p=1.000$) and, ethnicity ($p=0.106$) were all not statistically significant.

Variable	Depression present(n=186)	Depression absent(n=134)	Total (N=320)	Chi square test	p-value
Gender					
Male	69(50.0)	69(50.0)	138(100.0)	6.581	0.010*
Female	117(64.3)	65(35.7)	182(100.0)		
Age group/years					
65-74	164(58.8)	115(41.2)	279(100.0)	1.649	0.438
75-84	21(52.5)	19(47.5)	40(100.0)		
≥85	1(100.0)	0(0.0)	1(100.0)		
Marital status					
Married	90(51.7)	84(48.3)	174(100.0)	6.627	0.036*
Separated	3(75.0)	1(25.0)	4(100.0)		
Widowed	93(65.5)	49(34.5)	142(100.0)		
Living arrangement					
Living alone	17(84.2)	3(15.8)	20(100.0)	Fisher's Exact	0.025*
With family	169(56.3)	131(43.7)	300(100.0)		
Education					
None	47(77.0)	14(23.0)	61(100.0)	14.219	0.003*
Primary	36(60.0)	24(40.0)	60(100.0)		
Secondary	57(56.4)	44(43.6)	101(100.0)		
Tertiary	46(46.9)	52(53.1)	98(100.0)		
Occupation					
Business	50(59.0)	34(41.0)	84(100.0)	12.454	0.189
Civil servant	4(66.7)	2(33.3)	6(100.0)		
Clergyman	2(28.6)	5(71.4)	7(100.0)		
None	57(67.1)	28(32.9)	85(100.0)		
Fishing	1(100.0)	0(0.0)	1(100.0)		
Housewife	5(71.4)	2(28.6)	7(100.0)		
Lawyer	0(0.0)	1(100.0)	1(100.0)		
Lecturer	1(33.3)	2(66.7)	3(100.0)		
Pensioner	66(52.4)	60(47.6)	126(100.0)		

*Statistically significant

Table 2: Factors associated with depression among study subjects (N=320).

Table 3 shows the association between some variables and anxiety disorder among the study subjects. A slightly higher proportion of females compared with males had anxiety disorder (45.6% versus 43.5%) but the difference was not significant statistically ($p=0.705$). Similarly, the relationship between anxiety disorder and age group ($p=0.369$), marital status ($p=0.085$), education ($p=0.115$), occupation ($p=0.533$), religion ($p=0.328$), ethnicity ($p=0.153$), and living arrangement ($p=0.094$) were not statistically significant.

Variable	Anxiety disorder Present (n=143)	Anxiety disorder Absent(n=177)	Total(N=320)	Chi square test	p-value
Gender					
Male	60(43.5)	78(56.5)	138(100.0)	0.144	0.705
Female	83(45.6)	99(54.4)	182(100.0)		
Age group/years					
65-74	126(45.2)	153(54.8)	279(100.0)	1.995	0.369
75-84	16(40.0)	24(60.0)	40(100.0)		
≥85	1(100.0)	0(0.0)	1(100.0)		
Marital status					
Married	69(39.7)	105(60.3)	174(100.0)	4.930	0.085
Separated	3(75.0)	1(25.0)	4(100.0)		
Widowed	71(50.0)	71(75.0)	142(100.0)		
Education					
None	35(57.4)	26(42.6)	61(100.0)	5.923	0.115
Primary	24(40.0)	36(60.0)	60(100.0)		
Secondary	46(45.5)	55(54.5)	101(100.0)		
Tertiary	38(38.8)	60(61.2)	98(100.0)		
Occupation					
Business	36(43.4)	48(56.6)	84(100.0)	8.013	0.533
Civil servant	4(66.7)	2(33.3)	6(100.0)		
Clergyman	3(42.9)	4(57.1)	7(100.0)		
None	44(51.8)	41(48.2)	85(100.0)		
Fishing	1(100.0)	0(0.0)	1(100.0)		
Housewife	3(42.9)	4(57.1)	7(100.0)		
Lawyer	0(0.0)	1(100.0)	1(100.0)		
Lecturing	1(33.3)	2(66.7)	3(100.0)		
Pensioner	51(40.5)	75(59.5)	126(100.0)		
Religion					
Christianity	140(44.3)	176(55.7)	316(100.0)	Fisher's Exact	0.328
Islam	3(75.0)	1(25.0)	4(100.0)		
Living arrangement					
Living alone	13(65)	7(35)	20(100.0)	3.969	0.094
With family	130(43.3)	170(56.7)	300(100.0)		

Table 3: Factors associated with anxiety disorder among study subjects (N=320).

Table 4 shows the factors associated with cognitive impairment among the study subjects. There was a statistically significant relationship between cognitive impairment and gender ($p=0.001$), age group ($p=0.048$), marital status ($p=0.003$), education ($p<0.001$), occupation ($p<0.001$) and living arrangements ($p=0.003$).

Cognitive impairment					
Variable	Moderate(n=37)	Mild(n=120)	Absent(n=163)	Chi square test	p-value
Gender					
Male	11(8.0)	40(29.0)	87(63.0)	14.379	0.001*
Female	26(14.3)	80(44.0)	76(41.7)		
Age group/years					
65-74	26(9.3)	103(36.9)	150(53.8)	12.628	0.048*
75-84	10(25.0)	17(42.5)	13(32.5)		
≥85	1(100.0)	0(0.0)	0(0.0)		
Marital status					
Married	15(8.6)	53(30.5)	106(60.9)	16.206	0.003*
Separated	1(25.0)	1(25.0)	2(50.0)		
Widowed	21(14.8)	66(46.5)	55(38.7)		
Education					
None	26(42.6)	29(47.5)	6(9.9)	157.560	<0.001*
Primary	6(10.0)	37(61.7)	17(28.3)		
Secondary	4(4.0)	46(45.5)	51(50.5)		
Tertiary	1(1.0)	8(8.2)	89(90.8)		
Occupation					
Business	8(9.6)	35(41.0)	41(49.4)	123.967	<0.001*
Civil servant	0(0.0)	0(0.0)	6(100.0)		
Clergyman	0(0.0)	1(14.3)	6(85.7)		
None	24(28.2)	51(60.0)	10(11.8)		
Fishing	0(0.0)	1(100.0)	0(0.0)		
Housewife	2(28.6)	4(57.1)	1(14.3)		
Lawyer	0(0.0)	0(0.0)	1(100.0)		
Lecturing	0(0.0)	0(0.0)	3(100.0)		
Pensioner	3(2.4)	28(22.2)	95(75.4)		
Religion					
Christianity	36(11.4)	119(37.7)	161(50.9)	1.369	0.547
Islam	1(25.0)	1(25.0)	2(50.0)		
Ethnicity					
Annang	1(7.2)	5(35.7)	8(57.1)	23.016	0.190
Efik	15(11.2)	59(44.4)	59(44.4)		
Ekoi	9(20.4)	15(34.1)	20(45.5)		
Hausa	1(33.3)	1(33.3)	1(33.3)		
Ibibio	7(10.1)	26(37.7)	36(52.2)		
Igbo	4(9.8)	9(21.9)	28(68.3)		
Yoruba	0(0.0)	2(18.2)	9(81.8)		
Others*	0(0.0)	3(60)	2(40)		
Living arrangement					
Living alone	4(20)	4(20)	12(60)	4.900	0.003*
With family	33(11.0)	116(38.7)	151(50.3)		

*Statistically significant.

Table 4: Factors associated with cognitive impairment among the study subjects (N=320).

Table 5 shows the independent predictors of mental problems among the study subjects using multivariate logistic regression. Living arrangement and level of education were independent predictors of mental problems in the study subjects. Those who were living with family (Odds Ratio: 0.215, 95% Confidence Interval: 0.057-0.812, p=0.019) and those who attained at least secondary education (Odds Ratio: 0.435, 95% Confidence Interval: 0.210-0.901, p=0.025) were significantly less likely to have mental problems. However, gender (Odds Ratio: 1.462, 95% Confidence Interval: 0.827-2.586, p=0.192) and marital status (Odds Ratio: 1.030, 95% Confidence Interval: 0.588-1.968, p=0.922) were not independent predictors of mental problems among the study subjects.

Variable	Odds Ratio	95% confidence Interval	p-value
Gender			
Male	1.462	0.827-2.586	0.192
Female	1.0		
Marital status			
Presently married	1.030	0.588-1.968	0.922
Presently unmarried	1.0		
Living arrangement			
Living with family	0.215	0.057-0.812	0.019*
Living alone	1.0		
Education			
Secondary or Tertiary	0.435	0.210-0.901	0.025*
Primary or None	1.0		

*Statistically significant

Table 5: Multivariate logistic regression of predictors of mental problems among subjects.

Discussion

This was a hospital-based cross-sectional study that sought to determine the common psychogeriatric presentations in a Family practice geriatric clinic, with emphasis on anxiety disorders, cognitive impairment and depression. Over one-third of the study subjects had either depression, anxiety disorders or cognitive impairment with the highest proportion having depression (58.1%). The finding of high prevalence of depression in this report is most probably predicated on its (the report) being the product of a clinic-based data analysis. Consequently, it is difficult to compare it with the estimated global prevalence of depression, put at 10-20% by the World Health Organization [4], and also with what has been reported in studies in America (11.19%) [5], Europe (11.9% - 18.3%), Asia (12% - 34%) [6] and other parts of Africa such as Ethiopia (28.5%) [7] and Uganda (25.2%) [8]. Other Nigerian studies had estimated prevalence of depression to be 26-28% [9,10]. The hospital-based design of the current study notwithstanding, the very challenging socio-economic climate of recent years in Nigeria, must certainly be seen to have played a part in the high prevalence rate found in this study.

Depression was significantly associated with female gender, which is consistent with several other studies [7,8,9,11]. It has been suggested that females are more vulnerable due to biological differences, coping styles and role overload which is peculiar in our society [9]. In this study, the higher prevalence among females could also be explained by the fact that most of the female subjects were widowed, had low educational and low socioeconomic status. Marital status was also significantly associated with depression as more of those separated and widowed were depressed, compared with their married counterparts. This could be attributed to the loss of the perceived social support and increased psychosocial stressors. This finding is consistent with other studies which found that widowed or separated elderly subjects were more likely to be depressed [7,8,10]. Educational status was also significantly associated with depression as there was an inverse relationship between the level of education and depression in the study subjects. This supports previous studies which found that low educational status was associated with increased risk of depression [6,7,10]. This study also found an increased likelihood of depression among the subjects living alone compared with those living with family. This is in agreement with other studies in which increased risk of depression in the elderly patients was seen with those who lived alone [7,12]. This could be attributed to poor social support and loneliness since the family plays a crucial role in the care of the elderly in the African setting.

The prevalence of anxiety disorder was 44.7% which is higher than values found in America (11.4%) [13], Europe (17.2%) [14] and Asia (0.1% - 9.6%) [15], possibly also a fall-out of the research scenario of the current study earlier mentioned. However, there appears to be paucity of epidemiological research reporting the prevalence of anxiety disorder among the elderly in sub-Saharan Africa. One systematic review by Wolitzky-Taylor and co-workers (2010) put the prevalence estimates of anxiety disorders in late life in the range of 3.21% to 14.2% [16]. Anxiety disorder was more prevalent among female than male subjects, in line with previous studies that

found higher prevalence rates in females, [13,17,18] however, this relationship was not statistically significant.

The prevalence of cognitive impairment in this study was 49.1%. This high prevalence could be linked to the low educational status of most of the subjects. The study reported a significant relationship between cognitive impairment and level of education as those with lower educational status were more likely to have cognitive impairment. This is in line with another study which found similar associations [9]. There was also the tendency to increased cognitive decline with increasing age, which is similar to findings in other studies [8,19,20]. Female gender was also associated with cognitive decline in this study, which supports a review by Laws and co-workers (2016) that suggested an increased risk among females [21]. However, Lipnicki, et al (2013) found an increased likelihood of cognitive decline among males [20]. A significant association was also found with marital status, where those separated or widowed had higher prevalence of cognitive decline. This finding is in line with other studies that showed an increased risk of cognitive impairment among those with single or widowed status [22,23]. The present study also found an increased likelihood of cognitive impairment in those who were not engaged in any form of occupation, suggesting that social engagement has a protective influence. This supports other reports that suggest that there is a decreased risk of cognitive decline in those involved in regular social engagement [22,23]. Overall, the predictors of the mental health problems in this study using multiple logistic regression were: low level of education and those living alone.

Limitations: The cross-sectional design of the study would not permit causal inferences to be made, and the hospital-based nature of the study necessitates use of caution in generalizing the findings. Furthermore, the study focused on depression, anxiety disorder and cognitive decline only.

Conclusion

Mental health problems in the elderly constitute a serious public health challenge, posing as a global population ageing phenomenon. The findings from this study suggest that a holistic approach should be adopted targeting identified factors to improve outcomes. Further research is recommended to explore how best to address psychogeriatric problems with a view to designing prevention and intervention strategies.

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