

Depression in Elderly Primary Health Care Clinic Attendees in Ilorin, Nigeria.

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Abstract

Depression in the elderly presenting at primary care settings is usually under-detected by primary care physicians. This study assessed the prevalence of depression and the utility of the Geriatric Depression Scale (Short Form) in detecting depression in elderly patients in primary care populations in Ilorin, Nigeria. This was a two stage cross-sectional study with data obtained from three primary care centres in Ilorin, using a proforma for socio-demographic variables and GDS-SF for depression screening. The second stage involved use of Depression Module of MINI (without knowledge of first stage scores) on all those with scores of ≥ 6 and a 15% random sample of those with scores < 6 on GDS-SF. Data analysis was by use of SPSS version 21 while level of significance was set at $P < 0.05$.

A total of 463 patients participated in the study. Prevalence of depression was found to be 3.2%. Depression was not found to be significantly associated with socio-demographic factors, but being divorced, separated or widowed, as well as, being female, increased age, feeling lonely and presence of at least one chronic physical illness showed trends towards caseness on GDS-SF. All 15 patients who screened positive on GDS-SF for depression were confirmed on MINI interview to be cases of depression.

In conclusion the use of short screening instrument such as GDS-SF may improve detection rate for late life depression in busy primary care clinics in Nigeria. Primary care physicians should particularly look out for at risk groups such as divorced, separated and widowed elderly patients for routine screening for depression.

Keywords: Elderly, Depression, GDS-SF, Screening.

Introduction

There is a rapid increase in the world's population of elderly people as a result of the increase in the life expectancy which occurred since the 20th century^{1,2,3}. As part of aging, the elderly may experience changes in physical, mental and social health status, as well as, loss events such as bereavement^{4,5}. These changes may result in higher rates of morbidity, disability and mortality in the elderly population. The increased morbidity may also result in increase, in the use of health facilities with consequent rise in health related cost of care^{6,7}.

Depression is a frequent diagnosis in the elderly with prevalence rates ranging from 7.4% to 50% depending on the populations studied and methodology used^{8,9}. In late life, depression may pose a diagnostic challenge in primary care, in that elderly patients may have difficulties in recognizing its symptoms or may present with somatic symptoms which may closely mimic symptoms of a physical illness¹⁰. In addition, a co-morbid physical illness may be present and the side effects of the medications used in its treatment may also mimic the symptoms of depression. Depression may complicate physical disorders such as stroke, cancer and epilepsy. It may also have a potentially harmful effect on the elderly by resulting in obesity, geriatric anorexia and their attendant consequences on physical health status. There can also be increased risk of physical harm as a result of prolonged reaction time to potential hazards¹¹.

Recognition of late life depression by primary care physicians is very crucial in its management, in that the elderly particularly those with comorbidities may be very vulnerable to the debilitating impact of depression. Depression may also be inversely related to the patients quality of life, functional disabilities, medication adherence, multiple and prolonged health care facility utilization^{12,13}.

Apart from similarities of some symptoms between depression and physical illness in late life being a challenge to the diagnosis of late-life depression in primary care, other factors reported by primary care physicians as militating against case detection include inadequate knowledge and skill, as well as, pressure for time in busy primary care facilities^{14,15}.

In order to solve the problems of recognition, diagnosis and treatment of depression in the elderly attendees of primary care and its attendant negative

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impacts, researchers have suggested collaborative care models " but in developing countries like Nigeria where there are limited number of psychiatrists particularly old-age psychiatrists, there may not be enough to cover most of the primary care centres. The use of screening tools has therefore been suggested as a strategy to improve detection of depression in primary care settings ".

The present study aimed to determine the rate of depression among elderly patients in primary care settings and the usefulness of a screening tool (GDS-SF) in identifying such cases.

Methods

This was a cross-sectional, two-stage study, in which patients 60 years and older, who could talk and gave their consent were recruited from three government owned primary care centres in Ilorin, over a period of four months. After the patient had been attended to by their primary care physician, they were approached and sociodemographic details (like age, sex, living arrangement etc) were collected using a specially designed proforma, after which the Geriatric Depression Scale – Short form (GDS-SF) was used to screen for depressive symptoms. These two instruments were administered by a trained research assistant. The GDS-SF, has been previously used in Africa, particularly Nigeria. It has a good sensitivity and specificity for predicting depression in the older adults ^{2,3}. Those scoring ≥ 6 on GDS-SF and a 15% random sample of those scoring < 6 had second stage assessment conducted by one of the authors (O.A) without knowledge of scores from first stage assessment, using the Mini International Neuropsychiatric Interview (MINI).

Later, the clinical records of all the patients were examined to see if there had been a previous diagnosis of depression by the attending primary care physicians. The diagnosis of the presence of any comorbid chronic physical illnesses by the physicians was also documented.

Statistical Analysis: The statistical package for Social Sciences (SPSS) version 21 was used for data entry and analysis. Descriptive statistics were calculated for all variables. Chi square (χ^2) and regression analysis were used to examine associations between variables and a Pvalue set at < 0.05 considered as statistically significant.

Ethical Considerations

Ethical approval was obtained from the Ethical Review Committee of the University of Ilorin teaching Hospital, Ilorin ERC PAN/2013/01/1185. The procedures used were in accordance with ethical standards in compliance with the Helsinki Declaration. Informed consent was obtained and confidentiality of

data was ensured.

Results

A total of 463 patients were assessed during the study period.

Table 1 shows the sociodemographic characteristics of the patients. Of the 463 participants, 259 (55.9%) were in the age group 60-69 years, 386 (83.4%) were females and also a majority were either separated, divorced or widowed 240 (51.8%), with only a few 61 (13.2%) living alone. Thirty four (7.3%) participants reported feeling lonely. There was also the presence of at least one chronic physical illness in 181 (39.1%) of the elderly patients.

Case detection by GDS-SF

A total of 15 (3.2%) patients were identified by the screening instrument (GDS-SF) as cases of depression.

Table II shows the relationship between sociodemographic variables and GDS-SF scores. Those who were divorced/separated or widowed were found to be significantly associated with positive GDS-SF scores ($\chi^2=4.925$; $p<0.026$).

Table 1:

Variables	Frequency (N = 463)	Percent
Age group (years)		
60 – 69	259	55.9
70 – 79	164	35.4
= 80	40	8.6
Gender		
Male	77	16.6
Female	386	83.4
Marital status		
Married	223	48.2
Separated/ Widowed	240	51.8
Ethnicgroup		
Yoruba	445	96.1
Hausa	3	.6
Igbo	3	.6
Others	12	2.6
Religion		
Christianity	95	20.5
Islam	368	79.5
Lives alone		
Yes	61	13.2
No	402	86.8
Feel lonely		
Yes	34	7.3
No	429	92.7
Ever drink		
Yes	41	8.9
No	422	91.1
Presence of chronic illness		
Yes	181	39.1
No	282	60.9

Table II: Relationship between demographic variables and GDS-SF scores

Variable	GDSpositive		Total n (%)	χ^2	p value
	Yes n (%)	No n (%)			
Age group (years)					
60 – 69	6 (2.3)	253 (97.7)	259	3.112	0.211
70 – 79	6 (3.7)	158 (96.3)	164		
≥ 80	3 (7.5)	37 (92.5)	40		
Gender					
Male	2 (2.6)	75 (97.4)	77	0.000 ^Y	1.000
Female	13 (3.4)	373 (96.6)	386		
Marital status					
Married	3 (1.3)	220 (98.7)	223	3.828 ^Y	0.0504
Divorced/Separated/Widowed	12 (5.0)	228 (95.0)	240		
Ethnic group					
Yoruba	15 (3.4)	430 (96.6)	445	3.484 ^Y	0.322
Hausa	0 (0.0)	3 (100.0)	3		
Igbo	0 (0.0)	3 (100.0)	3		
Others	0 (0.0)	12 (100.0)	12		
Religion					
Christianity	3 (3.2)	92 (96.8)	95	0.003	1.000
Islam	12 (3.3)	356 (96.7)	368		
Lives alone					
Yes	2 (3.3)	59 (96.7)	61	0.137 ^Y	0.711
No	13 (3.2)	389 (96.8)	402		
Feel lonely					
Yes	1 (2.9)	33 (97.1)	34	0.161 ^Y	0.688
No	14 (3.3)	415 (96.7)	429		
Ever drink					
Yes	2 (4.9)	39 (95.1)	41	0.025 ^Y	0.874
No	13 (3.1)	409 (96.9)	422		
Presence of chronic illness					
Yes	7 (3.9)	174 (96.1)	181	0.373	0.541
No	8 (2.8)	274 (97.2)	282		
Child neglect					
Yes	13 (3.1)	409 (96.9)	422	0.025 ^Y	0.874
No	2 (4.9)	39 (95.1)	41		

χ^2 : Chi square; *: p value < 0.05 (i.e. statistically significant)

Though there was no significant association between the age of the participants and the GDS-SF scores, there was however a trend towards positive GDS-SF scores with increasing age. Although not statistically significant, being a female also showed a trend towards positive GDS-SF score. The presence of at least one chronic physical illness also showed a trend towards a positive GDS-SF score.

Table 3 showed that being separated, divorced or widowed was a predictor of a positive screen result ($P=0.038$; OR=3.860; CI=1.075-13.863).

Table 4 illustrates that all the 15(3.2%) patients who scored ≥ 6 on the GDS-SF were confirmed during second stage assessment with MINI to be cases of depression. None of the patients assessed with MINI

who scored < 6 on GDS-SF were found to be cases of depression. This gives a sensitivity of 100% and specificity of 100% for GDS-SF in the study population. The primary care physician did not make any reference to depression in the case notes of the 15 cases identified in the study population.

Discussions

The prevalence of depression in the elderly in our study was 3.2% which is lower than earlier reports within Nigeria^{26, 21, 22}. This observation may be due to cultural difference among the population studied, as this study was carried out in North Central Nigeria, which is the middle belt zone of the country where an almost admixture of both northern and southern traditions may be found within the same zone, unlike

Table 3: Predictor of GDS positive using Forward linear multiple logistic regression

	B	p value	OR	95% C.I.	
				Lower	Upper
Marital status (Divorced/Separated/ Widowed)	1.351	0.038	3.860	1.075	13.863
Constant	2.944	<0.001	19.000		

B: Coefficient of logistic regression; OR: Odds ratio; 95% CI: 95% Confidence Interval
 Percentage of cases correctly predicted: 96.8%

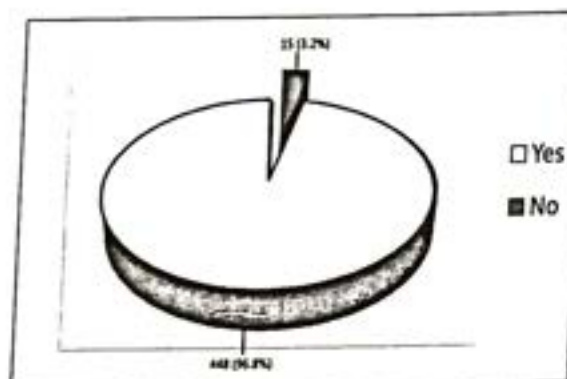
Variables not in the equation: Age, Gender, Religion, Ethnic group, Hypertension, Living alone, Feel lonely, Ever drink, Child neglect

Table IV: GDS and Mini screen

	GDS		Total n = 79 (%)	χ^2	p value
	Positive n = 15 (%)	Negative n = 64 (%)			
Mini screen					
Positive	15 (100.0)	0 (0.0)	15 (19.0)	72.633 ^Y	<0.001*
Negative	0 (0.0)	64 (100.0)	64 (81.0)		

χ^2 : Chi square; Y: Yates corrected chi square

Sensitivity of GDS: 100.0%; Specificity: 100.0%

**Figure 1:** GDS-SF positive

This illustrates that (15) 3.2% of the study population was positive on screening.

the earlier studies in the southern and northern parts of the country. The finding is however similar to reports from South Africa²³ and 3.9% in China²⁴. Several studies from all over the world have shown great variabilities in the prevalence of depression in the elderly^{11,25,26}. This variation may be explained due to the differences in sample population, culture, instruments used and measures taken as well as the definitions of depression taken²⁶⁻²⁸.

This study like most previous studies also did not find a direct statistical association between age and depression^{9,28,32,39} but found a trend for increased risk for depression with advancing age which may be explained by the increased probability of experiencing more losses in terms of health status, socio-economic powers, as

well as, loss of loved ones, all which make them more susceptible to depression²⁹. However, this finding is not in keeping with the report of a decreased rate of depression in the very old, from southwest Nigeria²⁹. The difference could be of cultural origin and the better utilization of social amenities and literacy in the south western parts of the country.

The interesting finding of no statistical association between depression and advanced age in spite of increased risk of biological, social and emotional vulnerabilities may be that the elderly are protected from depression by what has been termed socio-emotional selectivity as well as, wisdom³⁰. Also it has been reported that when other health variables have been controlled for, age may no longer have a prominent explanatory role on the development of late life depression^{28,31}.

In this study, there was no statistically significant association between gender and depression in old age, which is in keeping with some previous reports that has led to the suggestion of a narrowing of the gender gap in depression in late life³² but the trend of more elderly females having clinically significant depression in this study may be lending credence to some reports that concluded, that the female gender may be more at risk for depression^{4,33,34}. Some of the reasons to explain this may be that females may "magnify" and "catastrophize" more than the males, in addition³³ to other contributing factors like hormones and social factors^{4,35}.

Furthermore this study, seems to give credence

to a few studies^{27,31,36} that have highlighted, marital status of being "separated, divorced or widowed" as significantly associated with depression in old age, while a few others did not^{31,38}, which has led to conflicting views. One would expect that marriage being a structural form of social support and social integration, which could be stress-buffering in nature³⁹ would be of a greater benefit to the elderly. However it is well documented that poor social support is a risk factor for depression in late life⁴⁰. Also there have been reports that certain life events, such as marital separation and termination (divorce or widowhood) in the late life may lead to changes in achieved social relations which may lead to loneliness and depression in the older population⁴¹⁻⁴⁴. However, in contrast exit from a bad marriage may provide a sense of relief which may improve the elder's psychological wellbeing better than remaining in a distressing married situation which could be more damaging to one's psychological wellbeing.

Though not statistically significant, this study revealed that the elders who lived alone had no increased likelihood for the diagnosis of depression, than those who did not live alone. This is not consistent with earlier reports^{20,45}. The explanation for which may be that living alone was not perceived as a lack of social support^{32,46,47}. While consistent with earlier reports²⁰, this study revealed more clinical depression among elders who felt neglected by their children since this might have been perceived as a lack of essential social support^{48,49}. Furthermore, it is not surprising that most of the participants did not drink alcohol as this is against the study participants' religious belief and the few who did had clinically significant depression.

The current study though not significant, is in keeping with earlier findings^{20,22,23,34,38} that revealed a higher likelihood for depression to be comorbid with a chronic physical illness. This may be due to the interaction of several factors such as the illness itself, medication induced and social factors such as demands and cost of managing such illnesses as well as functional limitations^{38,48,49}.

It is not surprising that the current study revealed a poor rate of detection of depression in the elderly clinic attendees, which is also consistent with earlier reports of poor detection rates of psychiatric disorders in primary care, particularly late life depression^{5,6,23}. Mental disorders in primary health care has become a major health concern with the current estimate of about 50% of the world's population having a life time experience of mental health challenges, it's recognition, diagnosis with management and a possible referral to a psychiatrist has become very important in the primary health care setting, which has been described as an ideal setting for this purpose. So this also includes the detection and management of late life

depression which is also globally prevalent in order to prevent its attendant effect of increased health care facility utilization and possible negative impact on the elderly^{5,6,18,38,50,51,52}.

There may not be a single solution to this complex and multifactorial problem but a multi-level type of solutions aimed at the elderly patient, the primary care physician and collaboration in medical practice^{37,38,39,52}. Since the primary care physician is usually the first line of contact for patients, it becomes imperative that they should be able to identify and diagnose depression in the elderly, hence the need for a screening tool to aid in the diagnosis⁵³. The Geriatric Depression Scale – Short Form (GDS-SF) is one of such tools and it is a 15- item questionnaire derived from the original 30-item questionnaire. It is easy to administer to the physically ill elderly patients and completion time is about 5 to 7 minutes. The validity and reliability is good with 92% sensitivity and 89% specificity and it has been recommended as a screening tool for depression in the elderly^{33,34}.

The present study has the advantage of being one of the few multicentric studies on depression in late life, particularly in Nigeria. It also used a specific screening tool the GDS –SF, which was aimed at identifying depressive psychopathology in the elderly as well as, the use of the M.I.N.I which has been validated for both the DSM – IV and ICD – 10 for the confirmation of diagnosis of depression³⁵. However the limitations are the cross-sectional nature of the study which does not allow for direct causal inferences between the socio-demographic variables and depression. The other limitations are the relatively small sample size and the presence of some <5 subsets on statistical analysis.

In conclusion, we found that socio-demographic variables and the presence of a chronic physical illness may not always be associated with depression in late life. Late life depression, may in the primary care setting, go undetected and untreated. So it is recommended that the regular use of a brief screening tool such as the GDS-SF be used to enhance the primary care physicians' and other medical workers' skill in the detection and diagnosis of depression in the elderly. This will lead to better management thereby forestalling the possible negative impact of late life depression.

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