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ORIGINAL RESEARCH

Comorbid Anxiety and Depression Among Patients Attending the General Outpatient Clinic of a Nigerian Teaching Hospital

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Abstract

Background: Anxiety and depression are common mental disorders that are not only on the increase, but their comorbidity accounts for greater severity, chronicity, functional limitations and significant impairment of physical health.

Objective: The objective of this study is to determine the prevalence of comorbid anxiety and depression (CAD) among patients attending the General Outpatient Clinic, which could help increase the index of suspicion of these disorders and subsequently improve overall patient care.

Methods: A hospital-based cross-sectional study was carried out at the General Outpatient Clinic of Bowen University Teaching Hospital, Ogbomoso, between August and November 2021. Using a systematic sampling technique, 222 respondents were recruited. CAD was evaluated using the Generalized Anxiety Disorder Scale and Patient Health Questionnaire. SPSS version 26 was used for data analysis. Frequency and percentages were calculated, and Chi-square was used to test for significant association with a p-value set at <0.05.

Results: CAD was found among 27.5% of the study participants. Age group above 75 years, male gender, married participants, skilled workers, participants having monthly income between ₦51,000 - ₦100,000 (equivalent to USD100-200) and those with diabetes had the highest prevalence of CAD. Male gender had a statistically significant association with CAD.

Conclusion: It is, therefore, imperative to increase awareness of CAD with a focus on the male gender to commence treatment promptly when identified.

Keywords: Anxiety, Comorbidity, Depression, Prevalence, Nigeria.

Introduction

Comorbidity is the coexistence of one or more disorders with an index disorder concurrently or throughout the different life stages.[1] It is invariably associated with greater disease severity, chronicity and functional limitations.[2] Anxiety and depression are common mental disorders, both of which are on the increase.[3] Both have also been identified as systemic diseases that negatively impact physical health.[4] Anxiety is the term used to describe feelings of

fear and distress around an uncertain outcome. At the same time, depression is a condition marked by persistent low mood that might impair one's abilities.[5] It is commonly recognised that having one disorder increases the possibility of having the other.[2] In mental health, both diagnoses are among the most frequently made, especially among females.[5]

Two of the top six causes of non-fatal health loss, according to the World Health Organization (WHO), are anxiety disorders and depression, which are responsible for 3.4% and 7.4%, respectively, of years lived with disabilities worldwide.[6] It has been documented that 59.0% of people with generalised anxiety disorder (GAD) may also have major depressive illness.[7] In treatment research, the largest rates of comorbidity are found in anxiety and depressive disorders, which range from 40% to 98%.[8] Previous studies done in Ethiopia[9] among pregnant women found a prevalence of comorbid anxiety and depression (CAD) to be 10.4%, while another study done in Afghanistan[10] among hypertensive patients reported a prevalence of 28.2%. However, studies done in southwest Nigeria [11] among older adults and in southern part of the country [12] in the general outpatient clinic reported a prevalence of 6.0% and 17.5%, respectively.

This study aimed to determine the prevalence of CAD among patients attending a General Outpatient Clinic, which could increase the index of suspicion and subsequently improve overall patient care. Likewise, most patients present at the general outpatient clinics, being the first point of contact, with myriads of physical symptoms rather than psychiatric complaints.[13] This study is necessary as no research has been done on CAD in the study location.

Methods

Study setting and design
The study was a hospital-based, cross-sectional study carried out at the General Outpatient Clinic of Bowen University Teaching Hospital, Ogbomoso, southwest Nigeria, between August and November 2021.

Study population
Included: Consenting adult patients aged 18 years and above who attended the general outpatient clinic during the period of the study. Excluded: Patients who were diagnosed with anxiety disorder or depression and those receiving treatment for these conditions, as well as those who did not provide informed consent.

Ethical consideration
This study was approved by the Bowen University Teaching Hospital Research Ethics Committee with approval number BUTH/REC-119. The participants gave informed consent to be included in the study and were assured of anonymity in the use of the information they provided.

Sampling procedures
The sample size was determined using Fischer's formula $n= Z^2pq/d^2$ to estimate the sample size for a cross-sectional study. Where n is the minimum sample size:
Z = 1.96 (at 95% confidence interval (CI))
p = 17.5% (0.175) from the prevalence of mixed anxiety and depression in a Nigerian study.[12]
q = 1-p, which is equal to 0.825
d = 0.05
Therefore, n = (1.96)²×0.175×0.825÷0.0025=221.76
This was approximated to a minimum of 222 respondents. A systematic sampling technique was used to select participants from attendees of the general outpatient clinic as follows: -
About 40 patients were seen daily in the clinic, which runs for five days a week. An average of 3200 patients were expected to be seen in the clinic over the 4-month study period. This gives a sampling interval of 14.4. (3200/222=14.4). One

random number was selected as the first patient, and subsequently, every 14th patient was selected to give an average of three patients on each clinic day until the required sample size was obtained. The next patient was selected if the selected patient did not meet the inclusion criteria. The recruited patients' hospital records were tagged after each interview to avoid multiple recruitments.

Data and measures

Pretested interviewer-administered questionnaires with questions on sociodemographic factors and medical history were used to obtain data. The participants' occupations were further divided into three categories: dependents (retirees and housewives of unskilled workers, those not on pension, and students), unskilled workers (tradesmen and craftsmen), and skilled workers (managerial and professional personnel). The monthly income was categorised as ≤₦50,000:00, (equivalent to less than USD100 per month), ₦51,000-100,000 (equivalent to USD100 - USD 200), ₦101,000-150,000 (equivalent to USD 200 -USD 300), ₦151,000-200,000 (equivalent to USD 300-USD 400) and >₦200,000 (equivalent to ≥USD 400). (1 USD was equivalent to ₦500:00 during the time of the study).

The Generalized Anxiety Disorder (GAD) scale and Patient Health Questionnaire (PHQ9) were used to measure anxiety and depression, respectively. [14] The GAD Scale was used to assess the presence of anxiety among respondents. It is intended mainly as a screening tool for generalised anxiety disorder, although it also evaluates social anxiety disorder, panic disorder and post-traumatic stress disorder. This tool has also been validated for measuring anxiety disorders among various groups. [11] Respondents rated the presence of symptoms on a 4-point rating system as occurring "not at all" (0), "several days" (1), "more than half the days" (2), or "nearly every day" (3) over the previous two weeks. Adding the items together produced a symptom severity score ranging from 0 to 21. A score of 0-4 implied no anxiety, while scores greater than 5 suggested anxiety.[11]

The Patient Health Questionnaire (PHQ-9) is a condensed form of the full Patient Health Questionnaire consisting of nine items used to identify depressive disorders according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. The overall score can range from 0 to 27, with each item being graded from 0 (not at all) to 3 (almost every day) based on how persistent the symptoms had been during the previous two weeks. A total score of 0–4 indicated no or minimal depression and did not require therapy for depression, whereas a score of 5 or above suggested that the patient was depressed.

The English and Yoruba language versions of the pretested questionnaire were used depending on which languages each respondent understood best. The translation to Yoruba was done using the forward and backward translation procedures by two bi-linguists who had experience in both English and Yoruba languages and worked independently of each other. The new English translation was compared with the original version, and necessary modifications were made to obtain the translated version.

Data analysis

The data were analysed using SPSS version 26. Frequencies and percentages were calculated for each variable. A significant association was determined using Fisher's exact test, and a p-value of <0.05 was considered statistically significant.

Results

Over the study period, 222 participants were recruited. Sixty-one of them had CAD, giving a prevalence of 27.5%. Table I shows that the age

groups 35-44 and 45-54 were equally represented, and they had the highest proportion. This was followed by the age groups 25-34 years, 55-64 years, less than 24 years, and 65-74 years. However, the age group above 75 years had the lowest representation in the cohort. There was a female preponderance in the population studied. Also, the bulk of the population studied were married, unskilled workers, participants with monthly income less than ₦50,000, and those with no history of hypertension and/or diabetes. However, the prevalence of CAD was highest among the age group above 75 years, male gender, married, skilled workers, those with monthly income between ₦51,000-₦100,000, and those with diabetes mellitus. Only gender had a significant association with comorbid anxiety and depression (p = 0.021).

Discussion

This study investigated comorbid anxiety and depression in a general outpatient setting in Ogbomoso, southwest Nigeria, and found that 27.5% of patients had both anxiety and depression. This implies that more than one in four patients had both conditions. This rate is relatively high in the clinic-based population but consistent with the findings in a different study that was done among hypertensives in an outpatient department in Afghanistan [10] with a prevalence of 28.2%. In comparison, Kugbey[15] in Ghana studied patients on treatment for breast cancer and found a prevalence of 29.4%. The slight increase in this result compared to ours may be because these other studies used the Hospital Anxiety and Depression Scale questionnaire to assess their patients. Moreover, all their study participants had background

chronic disease, while most of our study participants had no chronic medical conditions.

A similar research conducted in Akwa Ibom State, southern Nigeria, at the general outpatient department setting, reported a lower prevalence of 17.5%. [12] This study had a similar setting and a similar sociodemographic distribution to the present Ogbomoso study. However, most of their study participants were civil servants, while the majority in the present study were unskilled workers. Different tools were also used for data collection in both studies. Other hospital-based studies done in Nepal [7] and Guinea[16] reported prevalence estimates of 5.9% and 8.1%, while community-based studies done in southwest Nigeria [11] and southeast Ethiopia [9] had prevalence estimates of 6.0% and 10.4% respectively. These values are lower compared to the findings in the present study. On the other hand, the present study's finding were significantly lower than that of a study done in China[7] in a psychiatric hospital and significantly higher than reported from a study done in Portharcourt, Nigeria, [17] among patients living with HIV, in which the prevalence was reported to be 71.7% and 1.7% respectively. The variation in the prevalence might be due to the use of different assessment tools, study participants, sample size variations and different study locations.

The present study found that CAD was more prevalent in the age group over 75 years, which differs from what was reported in Akwa Ibom, southern Nigeria. [12] People in this age group are old and feeble; they often live alone with chronic medical illnesses and have witnessed the loss of loved ones and traumatic life events. Males were more affected by this condition, contrary to findings from other researchers in southwest Nigeria and Nepal. [11,18]

Table I: Association of comorbid anxiety and depression (CAD) with sociodemographic variables, monthly income and personal history of hypertension and diabetes (N=222)

Variable	Category	CAD Absent	CAD Present	Total	p-value
Age range (years)	<24	22 (75.9)	7 (24.1)	29	0.609
	25-34	23 (69.7)	10 (30.3)	33	
	35-44	36 (69.2)	16 (30.8)	52	
	45-54	37 (71.2)	15 (28.8)	52	
	55-64	22 (71.0)	9 (29.0)	31	
	65-74	18 (90.0)	2 (10.0)	20	
	$\geq$75	3 (60.0)	2 (40.0)	5	
Gender	Male	58 (63.7)	33 (36.3)	91	0.021
	Female	103 (78.6)	28 (24.4)	131	
Marital status	Single	34 (73.9)	12 (26.1)	46	0.514
	Married	112 (70.4)	47 (29.6)	159	
	Divorced	5 (100.0)	0 (0.0)	5	
	Widowed	10 (83.3)	2 (16.7)	12	
Occupation	Skilled	42 (68.9)	19 (31.1)	61	0.733
	Unskilled	75 (73.5)	27 (26.5)	102	
	Dependent	44 (74.6)	15 (25.4)	59	
Income (Naira)	<50,000	82 (74.5)	28 (25.5)	110	0.731
	51,000-100,000	48 (66.7)	24 (33.3)	72	
	101,000-150,000	25 (75.8)	8 (24.2)	33	
	151,000-200,000	4 (80.0)	1 (20.0)	5	
	>200,000	2 (100.0)	0 (0.0)	2	
Medical history	Hypertension	43 (78.2)	12 (21.8)	55	0.201
	Diabetes mellitus	7 (50.0)	7 950.0)	14	
	None	107 (72.3)	4 (27.7)	148	
	Hypertension and diabetes	4 (80.0)	1 (20.0)	5	

In the present study, CAD was significantly correlated with gender. This is because males often keep emotional challenges to themselves and prefer to solve their problems alone unlike females, who disclose their troubles. However, Akinsulore *et al.* [11] found no significant association with gender. A larger percentage of respondents who were married had CAD, which negates the finding in a community-based study among older adults where widows were more affected by CAD. [11] This might be because of the stress of meeting home and workplace demands.

Most participants who worked in skilled fields and those with monthly income between ₦51,000-₦100,000 had CAD. This agrees with the finding of other researchers in Akwa Ibom [12] and southeast Nigeria, [19] where the majority were civil servants and employed, but disagrees with the findings of Albert and Effiong, where the study participants earned less than ₦10,000. In contrast, participants who earned ₦51,000 - ₦100,000 in the present study had the highest rate of CAD. This could be a result of heightened aspiration for improved living conditions. Also, there could be increased demand from close relatives predisposing to CAD. Notably, the highest proportion of CAD was seen in people with diabetes mellitus in the present study. This agrees with the report of Bante *et al.* [9] who found

that co-existing medical illness increased the odds of CAD by 3.6 times as compared to participants who were free from medical problems. Perhaps this is the case because participants with chronic medical conditions, especially diabetes mellitus, dread complications of diabetes, which forces them to maintain weight and glycaemic control, dietary and lifestyle modifications including foot care. Any of these could be the cause of anxiety and despair.

Limitation

The present study was hospital-based and participants were recruited from a single health facility. Therefore, further studies, preferably multi-centre or community-based studies, are needed.

Conclusion

This study shows that approximately one out of every four patients in the general outpatient department has the CAD. Therefore, it is necessary to raise awareness of CAD with a particular focus on the male gender and commence treatment immediately when identified.

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