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Research Article

Prevalence of perceived depression and anxiety among hypertensives attending imo specialist hospital owerri, Nigeria

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Abstract

Background: Depression is a burdensome disease of global importance, and although prevalent, it is mostly undiagnosed in patients with hypertension. Anxiety is another significant factor associated with increased Blood Pressure and is an independent predictor of future hypertension. The aim of this study was to determine the prevalence of depression and anxiety among hypertensive's attending Imo Specialist Hospital Owerri, Nigeria.



Methods: A hospital based cross sectional study was undertaken, utilizing systematic random sampling method in the recruitment of 334 respondents. Depression and anxiety was determined using a standard tool known as depression, anxiety, and stress scale-21 (DASS-21). The questionnaire was administered to the respondents by the researcher after an informed consent was obtained. Data were analyzed using SPSS version 21.

Results: A total of 334 respondents were recruited for the study comprising 190 (56.9%) females and 144 (43.1%) males. The Overall prevalence of depression and anxiety among the hypertensive patients was 77.8%. The result indicated that among the hypertensive's, 242 (72.5%) had both conditions of depressed and anxious, 74 (22.2%) were neither depressed nor anxious, 14 (4.1%) were anxious but not depressed while 4 (1.2%) were depressed but not anxious.

Conclusion: A combination of hypertensive medications with psychotherapy and antidepressants can definitely help prevent severe attacks of High Blood Pressure. Hence, the study recommends the need for psychiatric evaluation, counseling, and support services for hypertensive patients as an important component for the management of hypertension especially at advanced stage.

Background to the study

Hypertension is a chronic disease with high morbidity and mortality rate. The etiology of hypertension is multi-factorial, which results from the combined influence of genetic and environmental factors. It predisposes to coronary heart disease and cardiac dysfunction and has deleterious neurological effects on retina, central nervous system, and kidneys [1]. The burden of depression and anxiety among hypertensive patients is rapidly increasing. A hypertensive patient with depression and anxiety will experience a change in sleep patterns and excessive energy loss [2]. People with this condition are not efficient in the work place thereby reducing the country's labour force. It may also be difficult for patients with this condition to attend social gatherings. The presence of this condition increases the financial burden of the patient as he attempts to improve his health. It also increases the job description of the patient's care giver. Hypertensive patients suffering from depression and anxiety are at a higher risk to develop cardiovascular disease [3]. All medical professionals should take extra caution to prevent lethal complication by treating hypertension, depression and anxiety properly. Hypertensive patients experience many profound emotions which increase their risk for the development of mental health disorders, particularly anxiety and depression [4].

Depression is a burdensome disease of global importance, and although prevalent, it is mostly undiagnosed in patients with hypertension. The research evidence suggests that anxiety is another significant cause of increased BP and is an independent predictor of future hypertension [5].

Depressive symptoms and syndromes are common in the medically ill, although they are frequently unrecognized and untreated. Hypertension is significantly associated with symptoms of depression [6].

One of the known factors associated with poor compliance with antihypertensive medication was depression and scientific studies have examined the relation between them. However it has also been proposed that hypertension itself is a risk factor for depression. In Malaysia, neurotic depression (3.31%) is the most common psychiatric diagnosis and the prevalence of emotional disorders is 15.2%. This indicates clearly that hypertensive patients who are suffering from depressive illness are at a higher risk to develop cardiovascular disease. All medical professionals should take extra caution to prevent lethal complication by treating hypertension and depression properly [3].

In one study on normotensive and mildly hypertensive patients, the perception of being hypertensive was associated with greater anxiety during clinic BP measurement [5]. Anxiety disorder is amongst the most common psychiatric disorders all over the world. Emerging evidence suggests that anxiety and the anxiety disorders, which have received relatively less attention in many patients, have co-morbid anxiety symptoms that are associated with increased severity of psychiatric illness, additive functional impairment and medical costs and also amplify symptoms of some medical illnesses and appear to worsen clinical outcomes. However, there is a remarkable lack of data from rigorously designed clinical trials to guide treatment decisions in patients with common medical illness [7].

Anxiety disorders are common and costly in older adults and the detection and diagnosis of anxiety disorders in late life is complicated by medical co-morbidity, cognitive decline, and changes in life circumstances that do not face younger age groups. Furthermore, the expression and report of anxiety symptoms may differ with age. For these reasons, anxiety disorders in late life may be even more likely to be under diagnosed than in younger age groups [8]. Patients with anxiety exhibit a higher likelihood of medication non-adherence on hypertension treatment and they may limit the feature of treatment option, worsen the prognosis of patients, increase death rate from the disease or the ability to enjoy life [9].

Research evidence suggests that anxiety is another significant cause of increased BP and is an independent predictor of future hypertension. Similarly, stress is known to be significantly correlated with hypertension and causes many cardiac problems. Natural reaction of the cardiovascular response to stress is the increase in heart rate [5].

Methodology

Hospital based cross-sectional study was conducted at Imo Specialist Hospital, Owerri, Nigeria. Imo Specialist Hospital, Owerri is a public general hospital located in Owerri West Local Government Area, Imo State, Nigeria. Umuguma stretches from the Northern part at the roundabout on Sam Mbakwe Avenue by Dream-Land Hotel, through the Coca-Cola Factory off Irete Road on the East, to the Federal Secretariat Complex on Port Harcourt Road to the West and through Port Harcourt expressway including all the Housing Estates – World Bank, Federal and Imo State Housing estates. It borders Owerri at the



north, Nekede at the west, Irete and Okuku on the east and Avu at the south (Wikipedia, 2017). The study population consisted of all adult hypertensive patients both new and old who came for check up at Imo Specialist Hospital. Those hypertensive patients who were critically ill were excluded from the study because they were not physically strong enough to answer research questions.

A systematic sampling technique was used. On the average, the hospital attends to 15 hypertensive patients per day. This gives a total of 1,350 patients for the three months study duration. The sampling fraction was determined by dividing the total population of 1,350 by 334 samples. This gives a sample fraction of $1350/334 = 4.04$. This was achieved by selecting the first patient at random and recruiting every four patients that comes on a daily basis for the three months study duration. Three to four patients were recruited per day following this method.

Data were collected using pretested interviewer administered Questionnaire. Questionnaire was administered to the respondents after obtaining their consent and all necessary explanation given to the respondents. Permission to conduct the study was obtained from the Chief Medical Director. During the data collection, Respondents were assured of confidentiality of information. The questionnaire was made up of section A and B. Section A addressed socio-demographic features of the respondent. Section B was a standardized validated set of questions on depression, anxiety, and stress scale-21 (DASS-21). The questionnaire was administered to the respondents by the researcher after an informed consent was obtained. The literate respondents were allowed to fill the questionnaire themselves but for non-literate respondents, the questions were asked in local language and their responses were filled by the researcher. Each questionnaire takes about 4-6 minutes time to be completed.

Data collected was collated and inputted into statistical package for social sciences version 21.0. The analyzed data were presented using frequency distribution tables with percentage, and charts.

Result

Socio-demographic characteristics of the participants

The socio-demographic characteristics of hypertensive patients attending Imo Specialist Hospital, Owerri, Nigeria is presented below. A total of 334 respondents were recruited for the study comprising 190 (56.9%) females and 144 (43.1%) males. The respondents were within the age range of 20 – 29 years (6.0%), 30 – 39 years (14.4%), 40 – 49 years (11.4%), 50 – 59 years 75 (22.5%), 60 – 69 years 91(27.2%) and 70 years and above (18.6%). Marital Status of respondents showed that 27 (8.1%) were single, 238 (71.3%) were married, while 69 (20.7%) were widowed. The education levels of respondents indicated that 33 (9.9%), primary 44 (14.2%) had no formal education, 114 (34.1%) attained secondary level of education and 143 (42.8%) had tertiary education. Monthly income of respondents shows that 83 (24.9%) earned less than ₦18, 000,

168 (50.3%) earned ₦18, 000 – ₦47, 000, 55 (16.5%) earned ₦50, 000 – ₦100, 000, 16 (4.8%) earned ₦100, 000 – ₦150, 000 and 12 (3.6%) earned greater than ₦150, 000. This is as shown in Table 1 below.

Prevalence of depression and anxiety among hypertensive's

Depression and anxiety was determined using a standard tool known as depression, anxiety, and stress scale-21 (DASS-21). Information on depression and anxiety were retrieved, scored and categorized. The Overall prevalence of depression and anxiety among the hypertensive patients was 77.8% (Figure 1). The result indicated that among the hypertensive's, 242 (72.5%) had both conditions of depressed and anxious (comorbidity), 74 (22.2%) were neither depressed nor anxious, 14 (4.1%) were anxious but not depressed while 4 (1.2%) were depressed but not anxious (Figure 2).

The result also indicated the depression and anxiety category of the participants. It revealed that 31 (9.3%) had mild depression, 31 (9.3%) had moderate depression, 59 (17.7%) had severe depression while 73 (21.9%) had extremely severe depression. Also 58 (17.4%) had mild anxiety, 29 (8.7%) had moderate anxiety, 57 (17.1%) had severe anxiety while 112 (33.5%) had extremely severe anxiety. This is shown in Table 2.

Table 1: Socio-demographic Characteristics of participants.

Variables	Frequency (n=334)	Percentage (%)
Age (years)		
20 – 29	20	6.0
30 – 39	48	14.4
40 – 49	38	11.4
50 – 59	75	22.5
60 – 69	91	27.2
70 & above	62	18.6
Sex		
Male	144	43.1
Female	190	56.9
Marital Status		
Single	27	8.1
Married	238	71.3
Widowed	69	20.7
Education Level		
non-formal	33	9.9
Primary	44	13.2
Secondary	114	34.1
Tertiary	143	42.8
Monthly Income		
<18,000	83	24.9
18,000-47,000	168	50.3
50,000-100,000	55	16.5
100,000-150,000	16	4.8
>150,000	12	3.6

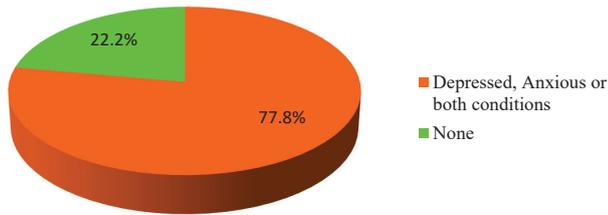


Figure 1: Overall prevalence of depression and anxiety among hypertensive Patients.

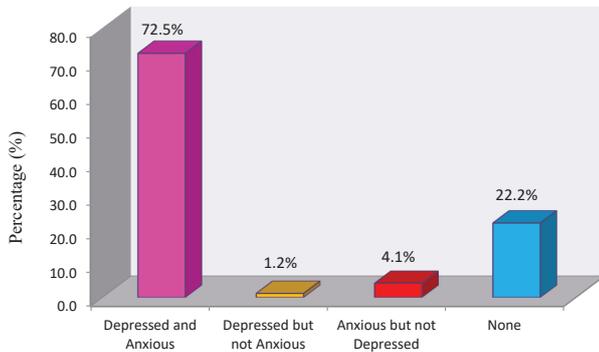


Figure 2: Depression and Anxiety Category of Respondents.

Table 2: Depression and anxiety category of hypertensive patients attending Imo Specialist Hospital.

Variable	Frequency (n=334)	Percentage (%)
Depression category		
Normal	88	26.3
Mild	31	9.3
Moderate	83	24.9
Severe	59	17.7
Extremely Severe	73	21.9
Anxiety category		
Normal	78	23.4
Mild	58	17.4
Moderate	29	8.7
Severe	57	17.1
Extremely Severe	112	33.5

Discussion

A higher percentage of the participants were aged above 60 years old. This could imply that the older a person becomes the higher the risk of hypertension. This finding is not different from the report of the study conducted in Urban Nepal by [10], which also reported a higher number of age group 45 to 64 years 169(53%) as respondents in their study. This is also in-line with another study conducted in India which reported that 58% of their participants aged between 55 – 75 years [11]. This is true because aging is associated with worry and worsening health condition. This finding corresponds to that of Zhanzhan, et al. (2015) on the prevalence of depression among hypertensive [12]. Majority of the respondents in the present study were females (56.9%). This is similar to the finding of Kulkarni & Lingappa (2019) who reported 70% female participants. This also corresponds with another study by Norzila, et al. (2009) who carried out a study on The Effect of Depressive Disorders on Compliance among Hypertensive Patients [3]. Undergoing Pharmacotherapy which reported a

higher number of females 104(51.7%) as respondents. Level of education shows that 143(42.8%) had tertiary education, 114(34.1%) had secondary education, 44(13.2%) had primary education and 33(9.9%) did have any formal education. This implies that greater proportion of the respondents had tertiary education. This may prove that most of the respondents had ample knowledge of their health conditions. This is contrary to the findings of Bernard, et al. (2014) and Sushil, et al. (2016) who reported a lower proportion of tertiary level of education among their respondents [13,5].

The findings of this result indicated a high prevalence of 72.5% co-morbidity depression and anxiety among hypertensives. This finding is higher than 26.6 % reported by Ademola, et al. (2019) [13], in a similar Nigeria hospital setting. It is also higher than 33.3% that reported by Prathibha, et al. (2017) amongst individuals in urban Trivandrum India [14]. In another study in Indian tertiary health care 40% prevalence of depression among hypertensives was reported [11]. A study in Kingdom of Saudi Arabia indicated that depression and/or anxiety was found in 57.3% of respondents with hypertension and diabetes [15]. This finding is also higher than 58.1% and 42.3% prevalence reported comorbidity for depression and anxiety among hypertensives in Afghanistan City of Andkhoy [16]. The higher prevalence may be related to worries that come with having a chronic disease which includes financial burden, disability lost days, low socio-economic status, worsening condition and also lack of adequate care experienced in this part of the country. Hopelessness due to economic situation in this geopolitical region, where majority of the residents take home meager salary after putting in adequate manpower in their places of work could also exacerbate the situation. Also the difference could also arise from varying instrument used.

Furthermore severe depression and anxiety was found in 39.6% and 50.6% of the participants respectively. In a similar study conducted in another geopolitical zone in Nigeria severe depression was found in 2.9 % of the hypertensives, while that of Ghana was 6.6% [13]. Nine percent severe depression was found in an Indian study [11], while 4.3% and 11.5% severity was reported for depression and anxiety in a study conducted in Saudi Arabia [15]. Also Severity of 4.0% was reported depression in a study conducted in Trivandrum India [14]. 5.5% was reported [17]. Just as explained earlier reasons for this could be geographical difference, difference in ethnicity and socioeconomic situation. Also poor hopelessness due to poor hypertensive control which could arise from influx of ineffective antihypertensive drugs in circulation.

Conclusion

There is a high prevalence of depression and anxiety among hypertensive patients. This is worrisome because depression and anxiety lower compliance to antihypertensive medication. Depression and Anxiety form a precipitating factor of hypertension, and hypertension can worsen symptoms of depression and anxiety. Therefore, combination of hypertensive medications with psychotherapy and antidepressants can definitely help prevent severe attacks of high BP. Hence this study underscores the need for psychiatric evaluation,



counseling, and support services for hypertensives which will in-turn improve hypertension management in the society.

Declarations

Ethics approval and consent to participate

Permission to conduct the study was gotten from School of Health Ethical Committee, Federal University of Technology Owerri. Also a permission letter was gotten from the Chief Medical Directors Imo State Specialist Hospital. Verbal consent was obtained from the participants after all necessary explanations were given; this was deemed appropriate because of the general literacy level of the residents. During the data collection observations and information gotten were handled with utmost confidentiality.

Availability of data and material

The data used for this research was gotten from field survey conducted by the researchers and can be made available on Request.

Authors' contributions

CICE and UWD conceived the study, contributed in drafting the study and performed the statistical analysis.

MM, UE and AIO synthesized the analysis and interpreted findings.

EAO, EBO and CPE designed the questionnaire and also contributed in drafting of the manuscript.

ULI, QKD and UFA did the literature search and participated in data collection.

All authors participated in critical review of the manuscript and approved the final manuscript.

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