Original Research Article

Prevalence of Depression and Patterns among Adult Hypertensive Patients Attending a Primary Care Clinic in South-South, Nigeria

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Abstract: Depression is a chronic mental illness, an important health problem and a leading cause of ill health and disability worldwide. Depressed patients present with a depressed mood, loss of interest in pleasurable activities, decreased energy, feelings of low self-worth or guilt, appetite or sleep disturbances, and poor concentration. Depressive symptoms are common in chronic medical illnesses like hypertension but are not recognized and treated. This study evaluated the prevalence and pattern of depression among hypertensive patients in a primary care clinic in South-South, Nigeria. This is a descriptive cross-sectional study involving 312 adult hypertensive patients attending the Family Medicine clinic of the Rivers State University Teaching Hospital, Port Harcourt selected by a systematic random sampling method. A specially designed questionnaire was used to record participants' characteristics and Patient Health Questionnaire 9 was used to evaluate for depressive symptoms. The data collected were analysed using the statistical package for social sciences (SPSS) version 20. The study lasted for 3 months and ethical approval was obtained from the ethical committee of the Rivers State University Teaching Hospital. The study showed that the prevalence of depression was 26.6%. The respondents with ages ranging between 50 – 59 years had the highest frequency of depression, 30.1% (25). More female respondents 71.1% (59) were depressed. The highest proportion of the respondents that were depressed 42.2% (35) had secondary education. More than half of the depressed respondents were married 57.8% (48). More than half of the respondents, 62.7% (52) had a monthly income below ₦50,000.

Keywords: Prevalence, Depression, Patterns, Adult, Hypertensive, Primary, Care, Clinic.

INTRODUCTION

Depression is a chronic mental illness that has become an increasingly important health problem. It is a leading cause of ill health and disability worldwide and contributes majorly to the overall global burden of diseases. Over 260 million people of all ages are affected worldwide according to the World Health Organization (WHO, 2020).

Depressed patients present with a depressed mood, loss of interest in pleasurable activities, decreased energy, feelings of low self-worth or guilt, appetite or sleep disturbances, and poor concentration. It can become chronic and severe and sometimes lead to suicide (WHO, 2020). It has been found that depression is the most common psychiatric disorder among suicide victims (Hawton K *et al.*, 2013).

Depressive symptoms are common in chronic medical illnesses, although they are occasionally not recognised and not treated (Okunrinboye H *et al*., 2019; Rodin G *et al*., 1986). Hypertension is one of the chronic medical conditions that could be associated with depression. Adaptation to chronic medical illnesses such as hypertension is difficult and complex and may necessitate a patient's lifestyle adjustments (Igwe M *et al*., 2013). Social relationships may also be severely affected, and emotional and psychological disorders may also affect the patient's quality of life (Igwe M *et al*., 2013). Many individuals who are diagnosed with hypertension experience somatic symptoms, role impairment, and lower quality of life, making them prone to getting psychologically disturbed by mental illness, especially depression (Almas A *et al*., 2014; Kretchy I *et al*., 2014).

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In Nigeria, two studies in the University of Nigeria Teaching Hospital, Enugu, and Lagos University Teaching Hospital, revealed a prevalence of major depression among patients with hypertension of 26.7% and 6.2%, respectively (Igwe M *et al.*, 2013; Oshodi Y *et al.*, 2012). Factors associated with major depression, documented in one of the studies, were lack of education, being unmarried, and being unemployed (Igwe M *et al.*, 2013).

Despite evidence linking depression to poor blood pressure control and increased morbidity and mortality related to hypertension, there is a paucity of data on the depression burden among patients with hypertension in South-South, Nigeria. This study evaluated the prevalence and pattern of depression among hypertensive patients in a primary care clinic, addressing the gaps in the burden of depression among patients with hypertension in South-South, Nigeria, thereby helping to improve the awareness of physicians to look out for depression in hypertensive patients in this region.

MATERIALS AND METHOD

This study is a descriptive cross-sectional study among adult hypertensive patients attending the Family Medicine clinic of the Rivers State University Teaching Hospital, Port Harcourt, Rivers State. All participants have been on antihypertensive treatment in the clinic for not less than six months and have attended the clinic not less than three times. Three hundred and twelve (312) eligible consenting participants obtained using the formula for cross-sectional studies were recruited using a systematic random sampling technique (Araoye M, 2004). A specially designed questionnaire was used to record participants' characteristics. Respondents were evaluated for depression using the Patient Health Questionnaire 9 (PHQ- 9). The data collected were analysed using the statistical package for social sciences (SPSS) version 20 (Ong M *et al.*, 2017). Mean and standard deviation were used for continuous variables and proportions for categorical variables. Results were presented in graphs, charts, and tables. Ethical approval was obtained from the ethical committee of the Rivers State University Teaching Hospital.

RESULTS

Prevalence of Depression among Respondents

The PHQ-9 scoring showed that 26.6% (83) of participants had some level of depression (score range of 5 to 22) while 73.4% (229) were not depressed (score range of 0 to 4). Overall, the prevalence of depression was 26.6%. This is illustrated in Figure 1.
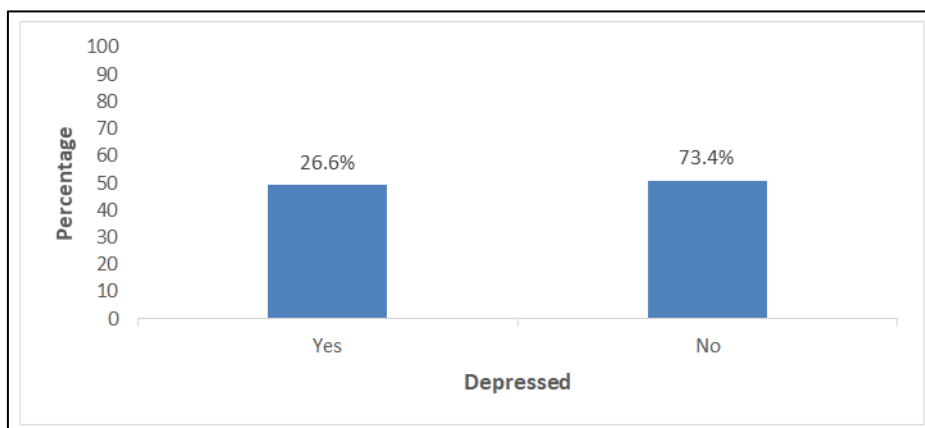

Figure 1: Prevalence of depression among respondents

The severity of depression among respondents

Among the 83 (26.6%) respondents that had depressive symptoms, 59 (71.1%) had mild depression, 10 (12.0%) had moderate depression, 13 (15.7%) had moderately severe depression and 1 (1.2%) had severe depression. This is illustrated in Figure 2.

Sociodemographic characteristics of hypertensive patients with depression

The overall age range was from 28 to 84 years. The respondents with ages ranging between 50 – 59 years had the highest percentage 30.1% (25). More female respondents 71.1% (59) were depressed than male respondents 28.9% (24). The highest proportion of the respondents that were depressed 42.2% (35) had secondary education followed by those with a tertiary level of education who made up 37.3% (31). More than half of the depressed respondents were married 57.8% (48). The majority of the respondents were Christians making up 97.6% (81) while one person (1.2%) was a Muslim. Respondents who were employed and unemployed were equal (32) while those who were retired made up 22.9% (19). More than half of the respondents, 62.7% (52) had a monthly income below ₦50,000 while 24.1% (20) of the respondents earned between ₦50,000 and ₦100,000. Respondents with monthly income between ₦100,001 and ₦200,000 made up 9.6% (8) while 3.6% (3) earned more than ₦200,000. These results are demonstrated in Table 1.
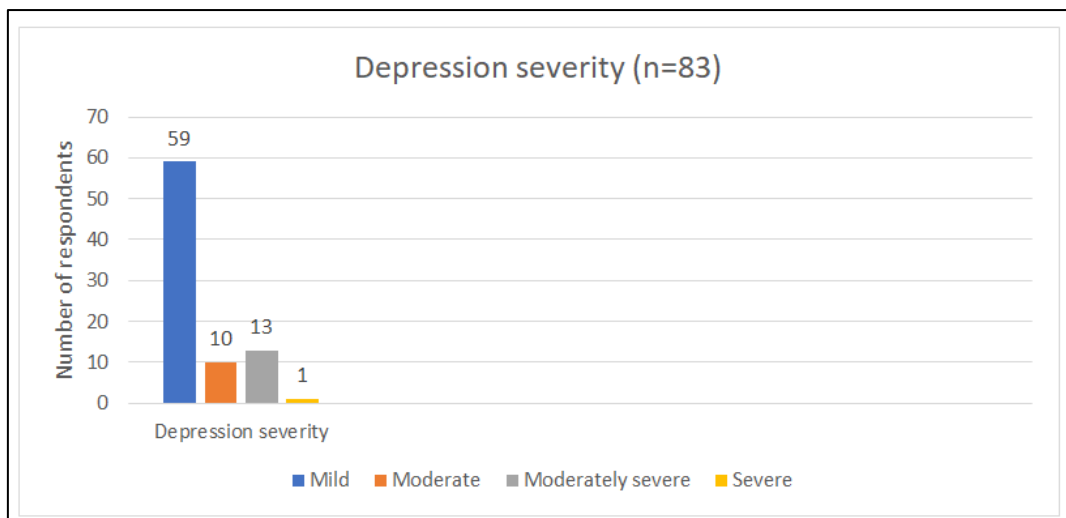
Figure 2: Depression severity among respondents

Table 1: Sociodemographic characteristics of hypertensive patients with depression

Variables	Frequency (Total=83)	Percentage (Total=100%)
Age in years		
<30	2	2.4
30-39	6	7.2
40-49	21	25.3
50-59	25	30.1
60-69	20	24.1
70-79	7	8.4
>79	2	2.4
Mean age 54.45	SD 11.73	95% CI: 51.70, 57.01
Sex		
Male	24	28.9
Female	59	71.1
Educational level		
No Formal Education	5	6.0
Primary	11	13.3
Secondary	35	42.2
Tertiary	31	37.3
Post Graduate	1	1.2
Marital status		
Divorced	3	3.6
Married	48	57.8
Separated	6	7.2
Single	10	12.0
Widowed	16	19.3
Religion		
Christianity	81	97.6
Islam	1	1.2
Others (Eck)	1	1.2
Employment Status		
Employed	32	38.6
Retired	19	22.9
Unemployed	32	38.6
Average Monthly Income		
<₦50,000	52	62.7
₦50,000-₦100,000	20	24.1
₦100,001-₦200,000	8	9.6
>₦200,000	3	3.6

DISCUSSION

Depression is a significant contributor to the global health burden of disease and affects all individuals worldwide. The coexistence of depression and hypertension has a major impact on health outcomes and economic impact on the individual.

In this study, the prevalence of depression among the respondents was 26.6%. This finding was similar to the findings of Ademola *et al.,* (2019), Okunrinbode *et al.,* (2019) and Igwe *et al.,* (2013) who observed a prevalence of 26.6% and 22.8% and 26.7% respectively in different cities in Nigeria. These similarities were not surprising as hypertension is a chronic medical condition, and chronic medical conditions and depressive disorders co-occur. Several studies have found that people with chronic medical conditions were significantly more likely to have depression than those without chronic conditions (Igwe M *et al.*, 2013; Adiari O *et al.*, 2014; Almas A *et al.*, 2014; Kretchy I *et al.*, 2014).

This prevalence was however higher than what was found by Oshodi *et al.,* (2012) in Lagos State, Nigeria (6.2%). They used a two-stage evaluation method to assess psychiatric morbidity. First, the General Health Questionnaire Version 12 (GHQ 12) was administered, followed up with a semi-structured diagnostic interview (Structured Clinical Interview for DSM IV diagnosis or SCID). Also, participants older than 60 years and patients who had developed complications from hypertension were excluded from their study. This could have been the reason for the very low prevalence in the study by Oshodi *et al.*,

The prevalence in this index study was also higher than that found by a meta-analysis to estimate the prevalence of depression among adults in the community from thirty countries between 1994 and 2014, which observed a prevalence of 12.9% (Lim G *et al.*, 2018). This difference could have been a result of the community-based approach used in the meta-analysis whereas this study was hospital-based and focused on hypertensive patients.

Furthermore, a higher prevalence of 40.6% was found by Chunhua in his study among hypertensive patients in China (Chunhua M, 2018). This could have been a result of the depression diagnostic tool used (Centre for Epidemiologic Studies Depression Scale-D). Also, the study was carried out in a different country, in a rural centre amongst older hypertensive patients. The duration of their illness and coping strategies would have also contributed to the increased prevalence in the study by Chunhua.

In this study, respondents with ages ranging between 50 – 59 years had the highest frequency of depressive symptoms (30.1%). Also, more females (71.1%) were depressed than males. This finding was similar to what was observed in studies in China and Brazil where more females were noted to have depressive symptoms (Chunhua M, 2018; Nakamura C *et al.*, 2022). This higher prevalence in women could be influenced by the sociocultural role of women in our environment, their social vulnerability, responsibilities at home, child care and physiologic cyclical hormonal changes in women which may predispose them to depression.

Based on education status, the highest proportion of respondents that were depressed (42.2%) were those with secondary education, followed by those with tertiary level of education which made up 37.3%. This finding is similar to what was reported by Adelesoye *et al.,* (2020) in Benin City where 30.5% of respondents had a tertiary level of education. This can be linked to the fact that persons with higher education are more likely to be knowledgeable about depression and hypertension. This finding is however in contrast to what was reported by Nakamura *et al.,* (2022) from their study in Brazil where low education was associated with depressive symptomatology. This difference could have been a result of the difference in culture between the Brazilians and Africans.

More than half of the depressed respondents were married (57.8%). A plausible reason for this finding might be that some level of stress is borne by married people who have to take care of the family and themselves. Married people also have an emotional attachment to each other, and failure to meet marital, sexual and other needs may contribute to the development of depressive symptoms in this category of respondents. This finding is however different from what was observed in China where the presence of depressive symptoms in hypertensive patients was associated with an unmarried status (Chunhua M, 2018). This difference could have been a result of the methodology used in the China study as a convenience sampling method was used for the recruitment of participants and the Centre for Epidemiologic Studies Depression Scale-D was used for assessment of depressive symptoms. Also, cultural differences could be a contributory factor.

The majority of the respondents were Christians making up 97.6% while one person was a Muslim. This is not surprising as Christianity is the predominant religion in the South-South geopolitical zone of Nigeria.

Respondents who were employed and unemployed had equal rates of depression (38.6%) while those who were retired made up 22.9%. More than half of the respondents with depressive symptoms (62.7%) had a monthly income below ₦50,000 while 24.1% earned between ₦50,000 and ₦100,000. Respondents with monthly income between ₦100,001 and ₦200,000 made up 9.6% while 3.6% earned more

than ₦200,000. These findings are comparable to what was found in similar studies by Nakamura *et al.,* (2022) and Chunhua (2018) in Brazil and China respectively where the majority of the respondents had a low income. This similar high prevalence of depressive symptoms in low-income earners and retirees could have been a result of struggling to meet increasing needs and bills associated with harsh economic conditions. Retired individuals also have difficulties assessing their pension and gratuity, worsening their physical and mental health conditions.

Strength and Limitations

This study contributes essential data to the prevalence of depression and the need for screening for depression as an important aspect of the management of hypertensive patients as well as serves as a reference for the need for larger population-based research on depression and its predictors in hypertensive patients. This was however a cross-sectional and hospital-based study limiting the ability to extrapolate to the general community.

CONCLUSION

This study observed that the prevalence of depression among hypertensive patients attending the Family Medicine Clinic of the RSUTH was high at 26.6%, thus highlighting the need to screen hypertensive patients within the primary care domain. Also, the study showed that middle-aged, female, married and low-income earning hypertensive patients were more prone to having depression. Hypertension is a chronic illness commonly encountered in primary care settings, with a proneness to depression. This study shows the significance of holistic care of hypertensive patients with relative relevance given to depression.

Conflict of Interest: None declared.

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