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Research Article

Prevalence of Hypertension among adults aged 40 years and above in Ahiazu Mbaise, Imo State, Nigeria

Abstract

Introduction: This study was aimed at determining the prevalence of hypertension among adults aged 40 years and above in a rural Nigerian Population.

Materials and Methods: Semi-structured questionnaires were completed by random selected rural dwellers. Aneroid sphygmomanometer was used to measure their blood pressure measurement. The mean of two separate blood pressure measurements was taken in each individual in a sitting position after about 5 minutes of rest. Data were analyzed using Statistical Package for Social Sciences computer software version 21.0 for windows. Total sample of 320 rural dwellers were recruited for the study.

Result: The result indicated that 116 were males while 204 were females. The mean Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP) of participants were 138.5 ± 19.9mmHg and 80.6 ± 13.9mmHg respectively. The overall prevalence of hypertension in the population was found to be 51.3%. The prevalence of hypertension in this study is 56.9% in males and 48.0% in females.

Conclusion: The finding of this study indicated need for specific interventions, focusing upon providing large scale population screening for hypertension and adequate blood pressure control to mitigate the mortality and morbidity associated with hypertension especially in the rural areas.

Introduction

Hypertension or high blood pressure is a serious condition that affects adults and two – third of people over 65 years. Blood pressure is the force of blood as it pumps through your arteries. The more blood your heart pumps and the narrower your arteries are, the higher the blood pressure. Normal blood pressure is defined as an average systolic blood pressure of 120mmHg and an average diastolic pressure of 80mmHg. Systolic pressure measures the pressure in arteries when your heart beats. Diastolic pressure measures the pressure between beats [1]. According to Joint National Committee on prevention, detection, evaluation and treatment of high blood pressure (JNC7), the blood pressure levels of individuals are grouped into four classes: (i) normal blood pressure (systolic blood pressure less than 120mmHg and diastolic blood pressure less than 80mmHg), (ii) pre–hypertension (systolic pressure between 120 and 139mmHg *or* diastolic pressure between 80 and 89mmHg), (iii) stage 1 hypertension (systolic pressure between 140 and 159mmHg *or* diastolic pressure between 90 and 99mmHg), and (iv) stage 2 hypertension (systolic pressure ≥160mmHg *or* diastolic pressure ≥100mmHg) [1].

Hypertension is the most common noncommunicable disease in Nigeria. Hypertension and its complications constitute approximately 25% of emergency medical admissions in urban hospitals in Nigeria. It is the most frequently diagnosed cardiovascular disorder in Nigeria [2]. Uncontrolled hypertension is associated with serious end–organ damage including heart disease, stroke, blindness and renal disease etc. The relationship between blood pressure (BP) and risk of cardiovascular disease events is continuous, consistent, and independent of other risk factors. The higher the BP, the greater is the chance of heart attack, heart failure, stroke, and kidney diseases [3]. Hypertension is of serious concern because it can be asymptomatic so many people with hypertension do not know initially and do not seek the help of a doctor. Therefore, the detection and control of hypertension is a major public health challenge in both developed and developing countries.

The aim of this study was to determine the prevalence and pattern of hypertension in a rural Nigerian population. The researcher also used the opportunity to advice and counsel adults in Ahiazu Mbaise L.G.A, of Imo State, Nigeria on how they can prevent and manage hypertension.

Materials and Methods

This study is a cross-sectional survey which intends to determine the prevalence and pattern of hypertension among adult aged 40 years and above in Ahiazu Mbaise Local Government Area. This study was conducted from June 2017 to November 2017. Ahiazu Mbaise Local Government Area has boundaries on the North with Isiala Mbano and Ehime Local Government Area, on the South with Aboh Mbaise Local Government Area, on the East with Ihitte-Uboma Local Government Area. Multiphase sampling technique, followed by a simple random sampling method was employed in this study, according to the number of communities in Ahiazu Mbaise Local Government Area. Firstly, the participants were stratified by their autonomous communities during the first phase and the second phase now involved selection of households randomly. A sample size of 320 adults were surveyed based on the 27 communities in Ahiazu Mbaise Local Government. A structural questionnaire and clinical examination using aneroid sphygmomanometer were employed. The mean of two separate blood pressure measurements was taken in each individual in a sitting position after about 5 minutes of rest. Hypertension is defined as blood pressure above 140/90 mmHg. Permission to conduct the study was requested and obtained from the university, informed verbal and written consent was obtained from participants. Confidentiality of information was maintained throughout the study. Data collected were edited and coded. It was thereafter imputed into the computer for analysis using statistical package for social sciences (SPSS) version 21.0. Tables were used to present frequency distribution and pattern of hypertension morbidity. Charts were used to present remarkable observations, also histogram and scatter diagram were used to show significant relationship between variables. Statistical significance for association was tested using Chi−square and P−value less than 0.05 was considered statistically significance.

Result

Socio-demographic characteristics of the participants

The survey sample include 320 participants drawn from adults 40 years and above in Ahiazu Mbaise Imo state, Nigeria, comprising 116 (36.3%) males and 204 (63.8%) females. The mean age of participants was 60.1 (±14.2) years, with their age range between 40 and 95 years. Majority of 195 (60.9%) of the respondents were married. Also 181 (56.6%) were farmers/ petty trader/artisan while 72 (22.5%) were civil servants/had a paid job. This is presented in table 1.

Prevalence of hypertension among the participant

The overall prevalence of hypertension in this study was 51.3% as presented in figure 1. The result indicated a higher prevalence for male 56.9%, when compared to females 48.0% as shown in figure 2. The mean Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP) of participants were 138.5 ± 19.9mmHg and 80.6 ± 13.9mmHg respectively.

Relationship between age and blood pressure

Figure 3 indicated a linear relationship between systolic blood pressure and age. Also figure 4 indicated a linear relationship between diastolic blood pressure and age.

Discussion

The overall prevalence of hypertension amongst the study population was 51.3%. This is actually something to worry about as there are many complications that come with it like stroke and cardiac failure. This prevalence is high compared with others studies in south east Nigeria. This higher prevalence

Table 1: Socio-demographic characteristics of participants.

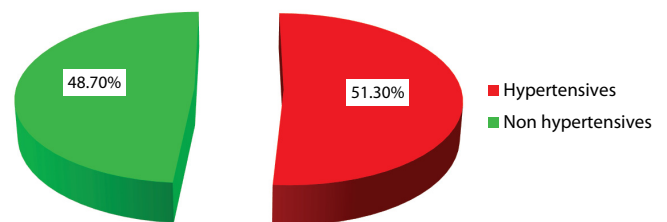| VARIABLE	FREQUENCY (N = 320)	PERCENTAGE (%)
Age group		
40 − 49	87	27.2
50 − 59	68	21.3
60 − 69	76	23.8
70 − 79	50	15.6
≥ 80	39	12.2
Sex		
Male	116	36.3
Female	204	63.8
Marital status		
Single	23	7.2
Married	195	60.9
Divorced	27	8.4
Widowed	75	23.4
Occupation		
Unemployed	27	8.4
Students/apprentices	13	4.1
Business Executive	27	8.4
Civil servant/paid job	72	22.5
Farmer/petty trader/artisan	181	56.6

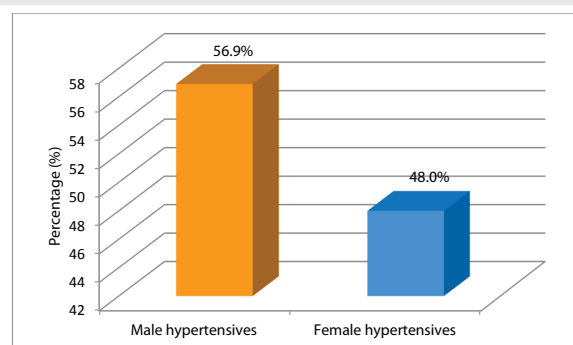Figure 1: Prevalence of hypertension among adults aged 40 and above in Ahiazu Mbaise L.G.A.

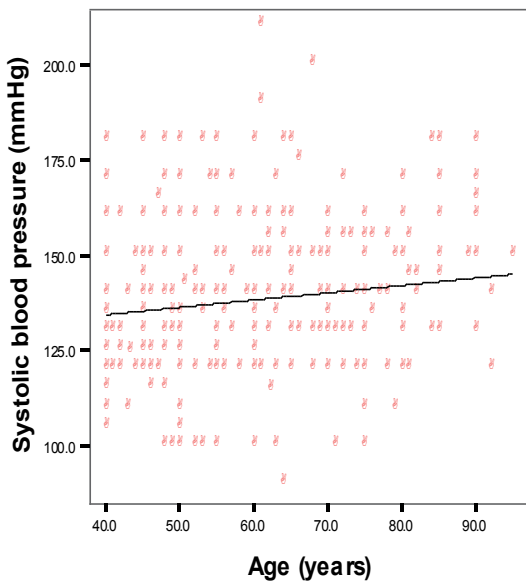Figure 2: Prevalence of hypertension with respect to gender.

Figure 3: Scatter diagram showing linear relationship between Systolic Blood Pressure and Age.
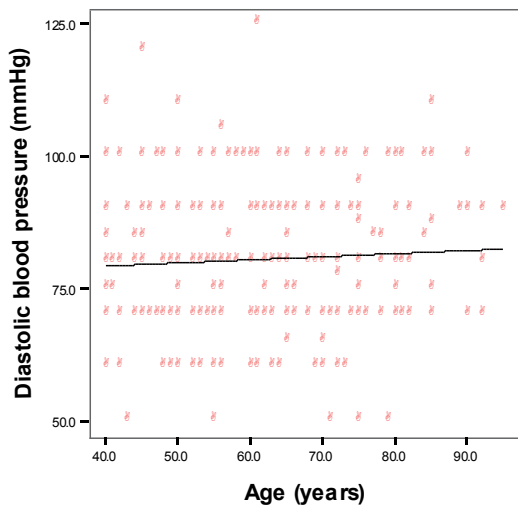

Figure 4: Scatter diagram showing linear relationship between Diastolic Blood Pressure and age.

may be due to age group recruited for this study. In a rural community in Southeast Nigeria, Ahaneku et al. (2011), reported a prevalence of 44.5% for hypertension from a sample of 218 adults aged 18years and older [4]. In another rural community also in Southeast Nigeria, Onwubere et al. (2011), reported a prevalence of 46.4% in a sample of 858 subjects who were aged between 40 and 70 years [5]. In another study conducted at Enugu a prevalence of 42.2% was reported among traders [6]. In a cross-sectional study in a theological institution in Umuahia also in Southeast Nigeria, Ike found a prevalence of 28.3% among college's entire population of 85 subjects which included both students, academic and non-academic staff [7]. Ajayi et al. (2016), found an overall prevalence of 33.1% amongst adults aged 18 years and above residing in Ibadan, Oyo State [2]. Also Ezekwesili et al. (2016), reported a prevalence of 22.8% among residents aged 17years and above living in major cities of Anambra state [3].

The findings of this study revealed that hypertension is more prevalent in males (56.9%) than in female (48.0%). This maybe as a result of the type of lifestyle men indulge in, smoking and excessive alcohol consumption are more prevalent in men than in women. This higher prevalence for male is also reported in other studies [8]. Ajayi et al. (2016), indicated a higher prevalence in male than female (male 36.8% and female 31.1%) amongst residents of Ibadan, Oyo State [2]. Onwubere et al, also reported that hypertension was commoner in the males than in females (50.2% vs. 44.8%) [5]. Also the study is in agreement with the findings of Ahaneku et al who reported hypertension was higher in males compared with their female counterparts (49.3% vs 42.3%)[4]. Furthermore a study among traders in Enugu city buttressed the point that more males were hypertensive than females (46.3% vs 37.7%) [6]. However Ezekwesili et al reported a higher prevalence in female than in male residents of major cities in Anambra State (male 22.01% and female 23.5%) [3].

This study indicated that the prevalence of hypertension increases with age, with participant aged 80 years and older having the highest prevalence (66.7%) of hypertension. This is not surprising because it has been established that age is a predisposing factor for the development of essential hypertension [8]. The findings of this study is in line with those of Olatinbosun, Kaufman, Cooper and Bella, (2000) which found that age is a risk factor for the development of hypertension in the urban black population in Nigeria [9].

Conclusion

With 51.3% of the adult population affected, Ahiazu Mbaise is facing serious challenges in preventing hypertension. The high prevalence indicates a higher risk of the complications of hypertension. This means that People's awareness and effort towards the control of hypertension still remain poor.

Recommendations

There is need for a public health strategy that includes primary prevention via changes in the lifestyles of the general population, such as weight reduction, restriction of smoking and alcohol, increased physical activities and restriction in saturated fats and dietary sodium, would result in a lower prevalence of hypertension. Furthermore, this subpopulation needs special attention including provision of accessible and equipped health facilities. Specific interventions should focus upon providing large scale of population screening for hypertension and adequate blood pressure control to mitigate the mortality and morbidity associated with hypertension while lowering of cost drug treatment for hypertension and its complication.

Acknowledgements

Authors' Contribution

This work was carried out in collaboration between all authors. Author Ebirim C.I.C wrote the protocol and did the statistical analysis. Authors Udujih O.G. and Dozie U.W did the study design and literature searches while authors Agbaka C.A, Orji S.M and Anele C.C developed the questionnaire and conducted the field work. All authors proofread and approved the final manuscript.

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