Prevalence Of Hypertension Among Residents Of Alakio Community, Lafia East Development Area, Nasarawa State

Peter Uteh Upla

Bashiru Sani

Naja'atu Shehu Hadi

Gladys Abel Angbalaga

Department of Microbiology, Federal University of Lafia, Nigeria

Fatimah Anura

Department of Biochemistry, Federal University of Lafia, Nigeria

Mfonido Ituen Bassey

Department of Microbiology, University of Uyo, Nigeria

Inyang Ikpeme Henry

Department of Microbiology, Cross River University of Technology, Nigeria

Cyril Cletus Okon

General Hospital, Akwa Ibom, Nigeria

Abstract: There is a need for regular surveillance on the prevalence of hypertension, as evidence suggest an increase among rural dwellers. This study was conducted to determine the prevalence of hypertension among residents of Alakio community, Lafia East Development Area, Nasarawa State, Nigeria. This was a cross-sectional descriptive study of rural communities of Alakio. A simple random method was used in this case study. Eligible persons were recruited into the study by spinning a bottle in the middle of a town hall, and the street the head pointed to was recorded. This process was repeated until sample was completed, with structured questionnaires administered and physical measurement were performed. Hypertension was defined as systolic blood pressure (SBP) ≥140-159/90-99mmHg for stage I hypertension and ≥160/100mmHg for stage II hypertension. There were 299 respondents of which 47.69%, 24.08%, 14.72% and 43.04% were between ages of 18-29yrs, 30-39yrs, 40-49yrs and 50yrs respectively. The overall prevalence of hypertension in the community was 13.38%, with male dominance to female. For the respondents, 68.89% had normal blood pressure and 18.73% were found to be pre-hypertensive. The prevalence risk factors in respondents that consume alcohol to those who do not were 41.47% and 58.53% respectively. A similar trend in the prevalence risk factor was also observed for smokers and non-smokers at 84.95% and 15.05% respectively Respondents that use extra salt in their foods and those who do not were 55.18% and 44.82% respectively. Creating awareness about the disease as well as regular blood pressure check and other medical practices which discourages sedentary lifestyle, would be more valuable in preventing the occurrence and high incidence of this disease. Health education by means of medical outreaches should be held regularly to address the damage associated with hypertension and to create awareness on the risk factors leading to hypertension.

Keywords: hypertension, prevalence, surveillance, systolic.

I. INTRODUCTION

Hypertension. also referred to as high blood pressure, is a non-communicable disease (NCD) of global interest; posing a huge global health challenge and burden [1-6]. Reportedly, there is over a billion people affected by hypertension. It also accounts for over 7.5 million deaths and about 60 million disability-adjusted life years (DALY) globally [7,8]. Majorly asymptomatic with no specific sign, hypertension has been tagged a silent killer [9]. Its aetiology is multifactorial [1,10] and diagnosis is mostly random – usually observed when screening for other ailments – and rarely by intentional screening [11].

Amongst adults aged 25 years and above, a report by the World Health Organisation (WHO) indicates that Africa accounts for 46% of global hypertension prevalence rate [9,12], with Nigeria hugely contributing to the region's burden [13]. Poor awareness, lack of treatment and control of hypertension has been indicated to affect the response of the war against hypertension in Nigeria [14].

Over the last two decades, there has been an increased interest in hypertension research in Nigeria. However, the prevalence and burden of hypertension is high and still growing in the country [15-16]. In 1997, an 11.2% prevalence rate – over 4 million cases – was reported in people aged 15 years and above. This has almost tripled by 2003 with a prevalence rate of about 30% with new studies reporting higher prevalence of almost 37% [17-19]. However, it is believed that the country's hypertension data and statistics are flawed and unreliable as they're mostly "outdated speculations based on mathematical models and surveys that are scanty and unrepresentative with low validity" [15]. It is therefore pertinent that current estimates of prevalence of hypertension in the country based on current definition is readily available for academic, medical and research purposes; and also, to create awareness and help curb the menace and burden of hypertension.

Alakio community is a rural settlement located in Lafia East Development Area, Nasarawa State. It is predominantly inhabited by Eggon farmers and few businessmen. Akura, Gabida, Tudun Mekeri, and Agbija villages share boundary with Alakio. This study was conducted to determine the prevalence of hypertension among adults aged 18 years and above in Alkio community, Lafia East Development Area, Nasarawa State.

II. MATERIAL AND METHODS

STUDY DESIGN

The study was a cross-sectional descriptive study

STUDY POPULATION

The study population comprises of adults aged 18 years and above, residing in Alakio. Therefore, the criteria for exclusion is people less than 18 years and also those who do not reside in Alakio.

SAMPLE SIZE ESTIMATION

Sample size was estimated using the prevalence rate of 23.6% [20]

$$n = \frac{z^2 pq}{d^2}$$

Where n=sample size; z= standard deviation; p= prevalence rate; q= 1-p; and d= degree of accuracy at 0.05,

n = $\frac{(1.96)^2 \times 0.23 \times 1-0.23}{(0.05)^2}$ = $\frac{3.84 \times 0.23 \times 0.76 / 0.0025}{0.0025}$ = 268

10% non-response = 26.8

Therefore, 268+26.8 = 294.8 = 295

Approximately 300

SAMPLING METHOD

The simple random method was used. Eligible persons were recruited into the study by spinning a bottle in the middle of a town hall, the street where the head of the bottle pointed to were entered and the process was repeated until size sample was completed.

DATA COLLECTION

Questionnaires were administered and physical measurements were performed. Blood pressure measurement were taken in sitting position using mercury sphygmomanometer with appropriate cuff-size. Systolic blood pressure was taken at the complete disappearance of the Korotkoff sound. The height of each respondent was measured using a non-elastic measuring tape and done using appropriate technology. Respondents were measured bare feet and without headgears or hats/caps. The weight of each respondent was measured using bathroom weighing scale, and bare feet as well. The height and weight measurement were used to calculate the Body Mass Index (BMI) with the formula: Weight in kilogram (kg) divided by the square of the height in metres.

ETHICAL CONSIDERATION

The study proposal was approved by the Department of Medicine, Federal University of Lafia.

The village head of Alakio community was approached by members of the research team and verbal approval was obtained to carry out the research in the community. Verbal informed consents were obtained from all the respondents before questionnaires were administered and measurements taken.

Demographic Status	Frequency (N)	Percentage frequency
Age (years)		
18-29	141	47.16
30-39	72	24.08
40-49	44	14.72
≥50	42	14.04
Total	**299**	**100**
Sex		
Male	169	56.52
Female	130	43.48
Total	**299**	**100**
Marital Status		
Married	182	60.87
Divorced	2	0.67
Single	115	38.46
Total	**299**	**100**
Occupation		
Civil servants	50	16.72
Teaching	31	10.36
Motor cycle Ridding	49	16.38
Trading	71	23.74
Fishing	10	3.34
Farming	31	10.36
Unemployed	57	19.10

Total	299	100
Educational Status		
Tertiary education	4	1.34
Secondary education	120	40.13
Primary education	158	52.84
No education	17	5.69
Total	299	100

Table 1: Demographic Status of Respondents in Alakio Community, Lafia East Development Area

Perception of cause of hypertension	Frequency (N)	Percentage frequency
Can be treated	100	33.44
Can be prevented	80	26.76
Caused by spiritual forces	59	19.73
Can result in death	60	20.07
Total	299	100

Table 2: Level of Respondents Perception of Cause of Hypertension

BP Measurement by a Doctor	Frequency (N)	Percentage frequency
A month ago,	24	8.03
12 months ago,	67	22.41
More than 12 months	46	15.38
Can't remember	22	7.35

Table 3: Health Seeking Behaviour of Respondents

Body Mass Index (kg/m^2)	Frequency (N)	Percentage frequency
<18	5	1.67
18-24.9	169	56.52
25-29.9	78	26.09
≥30	47	15.72
Total	299	100

Table 4: Body Mass Index (BMI) Distribution of Respondents in Alakio Community

Blood Pressure Values (mmHg)	Frequency (N)	Percentage frequency
Normal (<120/80)	203	67.89
Pre-hypertension (121-139/81-89)	56	18.73
Stage I (140-159/90-99)	22	7.36
Stage II (≥160/100)	18	6.02
Total	299	100

Table 5: Prevalence of Raised Blood Pressure Among Residents of Alakio Community

Risk Factor	Frequency (N)	Percentage frequency
Alcohol intake	175	58.53
Years of Alcohol Use		
>9 years	122	40.80
10-19	40	13.38
>20 years	13	4.35
No alcohol	124	41.47
Total	**299**	**100**
Cigarette smoking	45	15.05
Frequency of Cigarette smoking		
Daily	29	9.70
Once a week	4	1.34
More than once a week	12	4.01
No smoking	254	84.95
Total	**299**	**100**
Extra Salt in Food		
Yes	165	55.18
No	134	44.82
Total	**299**	**100**

Table 6: Prevalence of Risk Factors for Hypertension in Respondents

Family History of Disease	Frequency (N)	Percentage frequency
Hypertension	53	17.73
Diabetes mellitus	34	11.37
Sudden death	23	7.69
No family history of hypertension or diabetes or sudden death	189	63.21
Total	**299**	**100**

Table 7: Family History of Hypertension in Respondents in Alakio Community

III. RESULTS AND DISCUSSION

The result of the demographic status of respondents in Alakio community in Lafia East Development Area. There were 299 respondents, 141(47.69%) were between ages 18-29yrs, 72(24.08%) were between ages 30-39yrs, 44(14.72%) between 40-49yrs and 42(43.04) were more than 50yrs. 169(56.72%) were males and 130(43.48%) were females. 182(60.87%) were married and 115(38.48%) were single. In terms of occupation, 161(53.82%) were involved on unskilled work (motorcycling, farming, fishing, trading) and 57(19.10%) were unemployed. For educational status, 4(1.34%) received tertiary education, 120(40.13%) received secondary education, 158(52.84%) had primary education and 17(5.69%) had no education at all.

Regarding the aetiology, 59(19.73%) believed it is caused by spiritual forces, 100(38.44%) believe it can be treated, 80(26.76%) believe it can be prevented and 60(20.07%) believe that it can result to death if not properly managed

The proportion of respondents in Alakio community with raised blood pressure above 140/90mmHg from this study was found to 13.38%. 18.73% were found to be pre-hypertensive and 67.89% had a normal blood pressure. Similar study documented a prevalence of 23.6% among the Ibibios, Anangs, Efiks and the Obolos, Andy et al., [20]. This present study reflects a high decrease in the prevalence of hypertension among the people of Alakio. The low prevalence of 13.38% recorded in this study agrees with the findings of [21] carried out in an Urban and rural area of Nigeria. They recorded a low prevalence of 12.9% in the rural area.

The prevalence of risk factors in respondents in Alakio community, 124(41.47%) do not drink alcohol. 175(58.53%) of the respondents take alcohol of which 122(40.80%) have been drinking for <9yrs, 40(13.38%) between 10-19yrs and 13(4.35%) for >20yrs. 254(84.95%) of the respondents do not smoke cigarette. 45(15.05%) of the respondents' smoke cigarette of which 29(9.70%) smoke daily, 4(1.34%) smoke once a week and 12(4.01%) smoke more than once a week. 165(55.18%) of the respondents use extra salt in food and

134(44.82%) do not. 53.24% of the respondents with raised blood pressure were males and 46.76% were females. The study showed a high prevalence in males than females which corresponds to a similar study with prevalence of 40.3% in males and 23.7% in females by Ekwunife *et al*., [23]. The present study is not consistent with the study by [21] who recorded a high prevalence of hypertension in females than males with the rates of 22.4% and 21.2% respectively.

This study however, does not conform with the study put forward by [22] who recorded a high prevalence of hypertension in rural community with rate of 44.3%.

Respondents attitude to routine blood pressure check reveals that 24(8.03%) had their BP checked a month ago, 67(22.41%) had it checked within the past 12 months, 46(15.38%) last checked more than a year ago and 22(7.35%) cannot remember the last time their BP was checked.

Family history of hypertension and diabetes mellitus in respondents as presented in table **7** showed that 53(17.73%) of respondents have a family history of hypertension, 34(11.37%) have a family history of diabetes mellitus and 23(7.69%) have a family history of sudden death. 189(63.21%) have no family history of hypertension, diabetes mellitus or sudden death.

In the community where this study was conducted, there is lack of electricity, difficulty in transportation and the source of water is the local stream far away from the community. Most of them trek miles before getting the water, and they are also involved in farming activities. Hence, helping them to keep fit and prevent them from becoming too obese.

IV. CONCLUSION

Hypertension has been a public health concern as long as we can remember, especially in developing countries, Nigeria inclusive where it seems to be on the increase. This study has shown that its prevalence varies with age, sex and other variables. Increasing age and sex are non-modifiable risk factors, but some other environmental factors such as lifestyle can still be corrected in order to decrease the prevalence of this disease.

Among residents of Alakio community, Lafia East Development Area, creating awareness about the disease as well as regular blood pressure checks and other medical practices which discourages sedentary lifestyle would be valuable in preventing the occurrence and high incidence of this disease and hence prevents its deadly complications.

V. RECOMMENDATIONS

Based on the findings from this study, the following recommendations were made; health education by means of medical outreaches should be held regularly to address the damage associated with hypertension and to create awareness on the risk factors. Regular exercise should be encouraged for at least 30mins a day to avoid sedentary lifestyle. The habit of adding table salt in already prepared meals should be discouraged. Alcohol consumption should be reduced to the barest minimum, at most one bottle a wee.

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