

Knowledge, Attitude and Perception of Hypertension among Residents of Akpor Community in Rivers State: A Descriptive Cross-Sectional Study

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Abstract

Background: Hypertension, also known as high blood pressure, is a serious condition of public health concern. It is the leading modifiable risk factor for cardiovascular disease and premature death worldwide, and can increase the risk of heart, brain, kidney and other diseases.

Aim: This study aimed at determining the knowledge, attitude, and perception of hypertension among residents of Akpor kingdom, a semi-urban community in Rivers State.

Methods: The study adopted a descriptive cross-sectional study design in which 284 apparently healthy community-based adult male and female individuals were purposively selected in four semi-urban communities of Akpor kingdom in Obio-Akpor Local Government Area of Rivers State. A structured questionnaire consisting of socio-demographic characteristics and research questions on knowledge, attitude and perception of hypertension was self-administered to the participants after obtaining their informed consents. All other ethical procedures were followed in line with the Declaration of Helsinki. Data was analyzed using SPSS version 25. Descriptive statistics was used to present the data in frequency tables.

Results: Majority of the respondents were males 154 (54.2%), married 195 (68.7%), and between the ages of 40 and 50 (41.5%). Majority 164 (57.8%) had good knowledge of hypertension while 18 (6.3%) had no knowledge of hypertension at all. The prevalence of hypertension was 62 (21.8%), while 102 (35.9%) were not aware whether or not they were hypertensive. Majority of the hypertensive respondents 48 (16.9%) knew their status through medical diagnosis in hospitals/clinics while 14 (4.9%) knew theirs through other means. Majority of the hypertensive respondents 34 (54.8%) had a positive attitude in seeking healthcare while 28 (45.2%) had a negative attitude. Regarding lifestyle modification, 16 (25.8%) had a negative attitude/perception of hypertension out of which 9 (14.5%) never engaged in any form of lifestyle modification, while 7 (11.3%) managed their condition through prayers and other religious practices.

Conclusion: A substantial percentage of most adult community dwellers still have poor knowledge of hypertension and negative attitude towards seeking healthcare despite the seemingly increase in public health campaigns in our communities. There is need for all stakeholders to join hands and intensify campaigns that would educate the populace on facts about hypertension, its prevention and management.

Keywords: Knowledge, Attitude, Perception, Hypertension, Residents of Akpor Community, Rivers State, Cross-Sectional Study

Introduction

Hypertension is defined as a systolic blood pressure value that is greater than or equal to 140 mmHg or/and a diastolic blood pressure value that is greater than or equal to 90 mmHg [1]. Based on

the 2017 American College of Cardiology–American Heart Association (ACC–AHA) Hypertension Guideline, hypertension is defined as a systolic blood pressure of 130 mm Hg or more or a diastolic blood pressure of 80 mm Hg or

more [2]. In the same vein, Carey et al., [3] defined hypertension as the persistent systolic blood pressure of at least 130 mm Hg or diastolic blood pressure of at least 80 mm Hg, affecting more than 1 billion adults worldwide. It affects approximately 116 million adults in the United States of America and about 30–45% of the general population in different European countries [1, 3]. According to Mill et al., [4], the prevalence of hypertension has increased, especially in low- and middle-income countries (LMICs) despite the fact that mean blood pressure (BP) has remained constant or even decreased slightly over the past four decades globally. Despite the increasing prevalence of hypertension in LMICs, the awareness, prevention campaigns, treatment and control is still relatively low in our communities [4].

Hypertension is a leading risk factor for death and disability, including stroke, accelerated coronary and systemic atherosclerosis, heart failure, chronic kidney disease, and death from cardiovascular causes [5]. It has been classified in different ways. According to Kjeldsen, [1], hypertension can be classified as optimal (<120 mmHg systolic and <80 mmHg diastolic), normal (120–129 mmHg systolic and/or 80–84 mmHg diastolic), high normal (130–139 mmHg systolic and/or 85–89 mmHg diastolic), grade 1 hypertension (140–159 mmHg systolic and/or 90–99 mmHg diastolic), grade 2 hypertension (160–179 mmHg systolic and/or 100–109 mmHg diastolic), grade 3 hypertension (\geq 140 mmHg systolic and <90 mmHg diastolic), and isolated systolic hypertension. The cut-off blood pressure values are universally accepted both to make the diagnostic approach simple and to facilitate treatment decision.

The first-line therapy for hypertension is lifestyle modification [3, 6, 7]. Lifestyle factors such as high sodium intake [8-10], smoking [11-13], excess alcohol intake [14-16], weight gain and obesity [17-19], physical inactivity [20-22] etc. are associated with an increased risk of hypertension. Generally, the treatment of hypertension includes non-pharmacologic and pharmacologic approaches. Treatment decisions depend on whether there is preexisting cardiovascular disease, diabetes mellitus, or chronic kidney disease etc.

Poor knowledge of hypertension among the adult population has negative consequences as this affects the people's attitude concerning its prevention and treatment [23, 24]. This study, therefore, aimed at determining the knowledge, attitude, and perception of hypertension among residents of Akpor Community in Rivers State, Nigeria.

Methods

Study Design

The study adopted a descriptive cross-sectional study design

Study Area

The study was conducted in selected communities of Akpor kingdom, Obio-Akpor Local Government Area (LGA) of Rivers State. Obio-Akpor LGA also known as OBALGA which consists of OBIO and AKPOR kingdoms is a mixture of urban and semi-urban communities, and is the largest LGA of Rivers State. It is one of the LGAs that make up the Port Harcourt metropolitan city. However, communities in Akpor kingdom are mostly semi-urban in nature. This study was conducted in Rumuekini, Rumuosi, Alakahia and Choba communities of Akpor kingdom, Rivers State. These four communities are actually within the periphery of the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt.

Sampling Method

The study adopted a purposive sampling technique in which male and female adults who met the inclusion criteria were selected.

Inclusion criteria

1. Male and female adults of 40 years and above
2. Being resident in Akpor kingdom for at least one year regardless of the person's state of origin.

Exclusion criteria

1. Individuals who can't understand English or the Nigerian Pidgin language
2. Individuals who can't sign informed consents themselves either due to hand dysfunction or any other reason whatsoever

Sample Size Determination

The Sample size determination was done using sample size determination formula by Cochran as shown below:

$N = Z^2P(1-P)/d^2$ where N equals to sample size, Z = level of significance, P = Prevalence or proportion of variable of interest based on previous studies, and d = sampling error that can be tolerated in the study.

P = 20.2% Aliko et al., [25]

Therefore, P = 20.2% = 0.202

Using P = 0.202, Z = 1.96, (1-P) = 1-0.202 = 0.798, d = 0.05

Imputing the figures into the equation, we have $N = 1.96^2 \times 0.202 \times 0.798 / 0.05^2$

N = 0.619/0.0025

N = 247.6

Adjusting to 15% non-response, we have 247.6 + 37.1 = 284 approx.

N = 284

Therefore, sample size for the study = 284

Instrument for data collection

A structured questionnaire consisting of socio-demographic characteristics and research questions on knowledge, attitude and perception of hypertension was designed and self-administered to the participants after obtaining their informed consents. Section A consisted of the socio-demographic characteristics of the participants while section B comprised research questions on knowledge of hypertension. Section C, on the other hand, consisted of research questions on attitude and perception of hypertension among the respondents.

Validity of the Instrument

Face and content validity of the instrument was done in line with the objectives of the study. This was carried out by two public health experts. Their comments were utilized in producing the final version of the instrument.

Reliability of the instrument

The instrument was pre-tested among 30 adults before the actual study. In order to determine the reliability of the instrument, internal consistency test was done. The overall coefficient value of Cronbach's Alpha of the instrument was 0.71.

Data Analysis

The data collected were collated, coded and analyzed using the computer software [(Statistical Package for Social Science (SPSS)] package version 25. Descriptive statistics was used to present the data in frequency tables.

Ethical Considerations

The purpose of the study was well explained to the participants and written informed consent was given before they were admitted for the study. All other ethical procedures were followed in line with the Declaration of Helsinki.

Results

Table 1: Socio-demographic characteristics of the respondents (n= 284)

Categories	Frequency (n)	Percentage (%)
Sex		
Male	154	54.2
Female	130	45.8
Age (Years)		
40-50	118	41.5
51-60	89	31.3
61-70	51	18.0
70 and above	26	9.2
Marital Status		
Single	36	12.7
Married	195	68.7
Separated	12	4.2
Divorced	18	6.3

Widowed	23	8.1
Educational Status		
No formal education	44	15.5
Primary	62	21.8
Secondary	74	26.1
Tertiary	104	36.6
Occupation		
Trading	82	28.9
Civil service	65	22.9
Farming	32	11.3
Public service	18	6.3
Apprenticeship	10	3.5
Retired	77	27.1
Religion		
Christianity	217	76.4
Islam	46	16.2
Others	21	7.4

Table 1 gives a description of the socio-demographic characteristics of the respondents in terms of age, gender, marital status, occupation, educational level, and religion. In terms of age, majority of the respondents were between the ages of 40 and 50 (41.5%) followed by the ages between 51 and 60 (31.3%). With regards to gender, majority of the subjects were males 154 (54.2%) while a smaller percentage was female 130 (45.8%). This table also revealed that most of

the respondents were married 195 (68.7%) while the least were separated 12 (4.2%). In terms of educational status, majority of the respondents had tertiary education 104 (36.6%) followed by secondary education 74 (26.1%). When it comes to occupational status, majority of the respondents were traders 82 (28.9%) followed by civil servants 65 (22.9%). In terms of religion, majority of the subjects were Christians 217 (76.4%) while the least 21 (7.4%) were neither Christians nor Muslims.

Table 2a: Knowledge of Hypertension among the Respondents (n = 284)

Variables	Do you have knowledge of hypertension?		Are you hypertensive?			If 'yes', how do you know you are hypertensive?		Is hypertension preventable? Can it be managed by medical means if present?		
	Yes	No	Yes	No	Don't know	Through Medical Diagnosis in a hospital/clinic		Yes	No	Don't know
Age (Year)						Yes	No			
40-50	78 (27.5%)	2 (0.7%)	9 (3.2%)	41 (14.4)	30 (10.6%)	7 (2.5%)	2 (0.7%)	71 (25.0%)	4 (1.4%)	5 (1.8%)

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51-60	74 (26.1%)	4 (1.4%)	12 (4.2%)	39 (13.7)	27 (9.5%)	9 (3.2%)	3 (1.1%)	64 (22.5%)	5 (1.8%)	9 (3.2%)
61-70	59 (20.8%)	5 (1.8%)	15 (5.3%)	27 (9.5%)	22 (7.8%)	12 (4.2%)	3 (1.1%)	56 (19.7%)	4 (1.4%)	4 (1.4%)
70 and above	55 (19.3%)	7 (2.4%)	26 (9.2%)	13 (4.6%)	23 (8.1%)	20 (7.0%)	6 (2.1%)	52 (18.3%)	5 (1.8%)	5 (1.8%)
Total	266 (93.7%)	18 (6.3%)	62 (21.8)	120 (42.3)	102 (35.9)	48 (16.9)	14 (4.9%)	243 (85.6)	18 (6.3%)	23 (8.1%)

Table 2a gives a description of the knowledge of hypertension among the respondents. Majority 266 (93.7%) said they have knowledge of hypertension while a much smaller percentage 18 (6.3%) said they do not. When asked if they were hypertensive, majority of the respondents 120 (42.2%) said they were not while a good percentage 102 (36.0%) said they do not know whether or not they are hypertensive. It is a smaller percentage 62 (21.8%) that said they were hypertensive. The majority of these people that said they were hypertensive (9.2%) were within

the age bracket of 70 years and above. When asked how they knew they were hypertensive, majority 48 (16.9%) said they knew by medical diagnosis in the hospital/clinics while a much smaller percentage 14 (4.9%) said they knew it through other means other than hospitals/clinics. When asked if hypertension is preventable and can be managed by medical means, majority of the respondents 243 (85.6%) said 'Yes' while the least number 18 (6.3%) said 'No'. Incidentally, a good number of the respondents 23 (8.1%) said they do not know if hypertension can be prevented and managed by medical means.

Table 2b: Overall Classification of level of knowledge of Hypertension among the Respondents (n=284)

Classification	Frequency (n)	Percentage (%)
Good knowledge	164	57.8%
Poor Knowledge	102	35.9%
No knowledge	18	6.3%

Table 2b gives a description of the overall classification of level of knowledge of hypertension among the respondents. 164 (57.8%) had good knowledge of hypertension while 102

(35.9%) had poor knowledge of hypertension. Overall, 266 (93.7%) had knowledge of hypertension. On the other hand, 18 (6.3%) had no knowledge of hypertension at all.

Table 3a: Attitude and Perception of Hypertension among the Hypertensive Respondents (n = 62)

Variable	How do you manage your hypertension?						
	Medical checkups/treatment		Lifestyle modification				
Age (Years)	Visiting Hospitals/Clinics	Patronizing Patent Medicine Dealers and other local places	Diet	Exercise	Others	None	Prayers and other religious practices
40-50	5 (8.1%)	4 (6.5%)	2 (3.2%)	4 (6.5%)	2 (3.2%)	0 (0%)	1 (1.6%)
51-60	7 (11.3%)	5 (8.1%)	5 (8.1%)	3 (4.8%)	1 (1.6%)	1 (1.6%)	2 (3.2%)
61-70	7 (11.3%)	8 (12.9%)	6 (9.7%)	3 (4.8%)	2 (3.2%)	2 (3.2%)	2 (3.2%)
70 and above	15 (24.2%)	11 (17.7%)	16 (25.8%)	2 (3.2%)	0 (0%)	6 (9.7%)	2 (3.2%)
Total	34 (54.8%)	28 (45.2%)	29(46.8%)	12(19.3%)	5 (8.1%)	9 (14.5%)	7 (11.3%)

Table 3a gives a description of the attitude and perception of hypertension among the hypertensive respondents. When asked how they manage their hypertension, majority 34 (54.8%) said they actually visit hospitals/clinics for medical checkups and treatment while 28 (45.2%) said they patronize patent medicine dealers.

Majority 29 (46.6%) said they engage in lifestyle modification through diet, 12 (19.4%) said they engage in exercise, while 5 (8.1%) said they engage in lifestyle modification through other means. However, 8 (12.9%) said they did not practice lifestyle modification at all. Lastly, 8 (12.9%) said they managed their own hypertension through prayers and other religious practices.

Table 3b: Classification of level of Attitude in seeking healthcare among the Hypertensive Respondents (n=62)

Classification	Frequency (n)	Percentage (%)
Positive attitude (Visiting hospitals/clinics)	34	54.8%
Negative attitude (Patronizing patent medicine dealers and other places)	28	45.2%

Table 3b gives a description of classification of the level of attitude of the hypertensive respondents in seeking healthcare. 34 (54.8%) had

a positive attitude while 28 (45.2%) had a negative attitude.

Table 3c: Classification of the level of Attitude/Perception of Hypertension in terms of Lifestyle Modification among the Hypertensive Respondents (n=62)

Classification	Frequency (n)	Percentage (%)
Positive attitude/perception (Recommended forms of Lifestyle modification)	46	74.2%
Negative attitude/perception (No lifestyle modification including other non-recommended practices)	16	25.8%

Table 3c gives a description of the classification of the level of attitude/perception of hypertension among the hypertensive respondents in terms of lifestyle modification. 46 (74.2%) has a positive attitude/perception of hypertension while 16 (25.8%) had a negative attitude/perception of hypertension.

Discussion

This descriptive cross-sectional study determined the knowledge, attitude and perception of hypertension among a population of apparently healthy male and female individuals in some selected communities of Akpor kingdom in Obio-Akpor LGA of Rivers State. A structured questionnaire consisting of socio-demographic characteristics and research questions on knowledge, attitude and perception of hypertension was self-administered to 284 adult male and female dwellers of the afore-mentioned communities after obtaining their informed consents. All other ethical procedures were followed in line with the declaration of Helsinki.

The results of this study revealed that majority of the respondents were males 154 (54.2%). This is in tandem with the findings of Adeyanju et al., [26] but at variance with the findings of Aliko et al., [25]; Akpa et al., [27], and Wokoma et al., [28]. These studies which were all on hypertension were carried out in Rivers State. The results also showed that majority of the respondents were married 195 (68.7%). This is in agreement with previous studies [26,27,29,30].

This present study also revealed that majority of the respondents 164 (57.8%) had good knowledge of hypertension while 18 (6.3%) did not have any

knowledge of hypertension at all. In the same vein, prevalence of hypertension among the respondents was 62 (21.8%). Several studies have reported varying prevalence of hypertension in Rivers State [25-28, 30, 31] etc. Aliko et al., [25] reported a prevalence of 20.2 % while Wokoma et al., [28] reported a prevalence of 27.9%. Onwuchekwa et al., [30] reported a crude prevalence of 18.3% while Adeyanju et al., [26] reported a prevalence of 33.4%. Akpa et al., [27], on the other hand, reported a prevalence of 40.82% while Nwafor et al., [31] reported a prevalence of 71.86%. Some of these studies were conducted in rural communities while others were conducted in semi-urban and urban communities of the state. The closest to this present study is the finding of Aliko et al., [25]. While Aliko et al., [25] conducted their study in a rural community; this present study was conducted in semi-urban communities.

Some studies on hypertension which were conducted outside Rivers State have been reported as well. A cross-sectional study in a semi-urban community in Abak, Akwa Ibom State reported a prevalence of high blood pressure of 47.0% [32]. Bello-Ovosi et al., [33] in their cross-sectional study carried out in an urban community in Kaduna State reported a prevalence of 55.9%, while Ulasi et al., [34] in a cross-sectional study titled “prevalence and low awareness of hypertension in a market population in Enugu, Nigeria” reported a prevalence of 42.2%.

Furthermore, the results of this study revealed that a good number of the respondents 102 (36.0%) were not aware of their status, while 120 (42.2%) claimed they were not hypertensive. In the same vein, majority of the hypertensive respondents 34

(54.8%) were visiting hospitals/clinics for medical check-ups and treatment while 28 (45.2%) were patronizing patent medicine dealers and other local practitioners in the communities. This is similar to the findings of some previously published works. According to Adeyanju et al., [26], 67.2% of the participants claimed they were not hypertensive while 22.6% were not aware of their status. Akpa et al., [27], on the other hand asserted that 49 (13.03%) of the hypertensive participants in their study were aware of their status and 33 (67.35%) of these individuals were receiving treatment. There are possible reasons a good percentage (36%) of the respondents did not know whether or not they were hypertensive. Hypertension is a silent killer and can only be detected through medical screenings. The fact that 45% of the respondents patronized patent medicine dealers shows that simple blood pressure checks might not be a routine. Some of these individuals usually get to know their status when they are seriously ill or hospitalized.

Finally, the results of this present study revealed that in as much as majority of the respondents engaged in different forms of lifestyle modification - Diet 29 (46.8%), Exercise 12 (19.3%), and other forms of lifestyle modification other than diet and exercise 5 (8.1%), a good number of the respondents 16 (25.8%) had poor attitude towards the management of hypertension when it comes to lifestyle modification.. Interestingly, a substantial percentage 9 (14.5%) of these respondents never engaged in any form of lifestyle modification, while 7 (11.3%) engaged in prayers and other religious practices as a way of managing their hypertension. This is shocking and also revealing at the same time! First, we are talking about a semi-urban and rapidly developing environment which is part of Port Harcourt metropolitan city and not a rural community. Secondly, a lot of people in these communities do not engage in any form of lifestyle modification all; they do not give due consideration to their diets, exercise etc. Thirdly, a good percentage of these community people actually believe solely in prayers and other religious practices as an alternative to seeking medical attention. Lastly, these communities are actually within the periphery of University of Port Harcourt Teaching Hospital which should have been a motivating factor to always seek proper medical attention.

Conclusion

A substantial percentage of most adult community dwellers still have poor knowledge of hypertension and negative attitude towards seeking healthcare despite the seemingly increase in public health campaigns in our communities. There is need for all stakeholders to join hands and intensify campaigns that would educate the populace on facts about hypertension, its prevention and management. This campaign strategy will properly educate the populace and improve their perception and attitude towards the prevention and management of hypertension in our communities. This will contribute immensely in reducing the global burden of the disease condition.

Limitation

The use of purposive sampling method in selecting the study participants may have resulted in sampling bias. Secondly, the self-reported information which the study relied on could have been subject to recall bias. Caution could, therefore, be exercised when interpreting and generalizing the findings of this study. However, the sufficient sample size used as well as the face and content validity of the instrument etc. might have assured the validity of the findings of this study.

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