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RESEARCH ARTICLE

KNOWLEDGE ATTITUDE AND PERCEPTION OF HYPERTENSION AMONG STAFF OF A TERTIARY INSTITUTION IN NIGERIA

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Abstract

Background: Hypertension was a prevalent disease in developed countries, but has recently become a major disease of public health importance in developing countries.
Objective: Study assessed knowledge, attitude, and perception about hypertension among the staff of University of Port Harcourt, Rivers State.
Method: Cross- sectional study was conducted among the staff in July 2019. Total 256 staff members were randomly selected across all the Faculties. Data collected using structured questionnaire include, demographic information, knowledge, perception and attitude about hypertension and statistical analysis carried out with SPSS version 20.
Result: Total 54.7% (140) respondents were academic staff and 45.3% (116) non-academic, 61.7% (158) male, females constitute 38.3% (98). Male academic staff was 67.1% (94); most academic staff, 36.4% (51) was within 50-59 years, 28.6% (40) were between 40-49 years. Total 37.1% (43) non-academic staff were within 40-49yrs. Respondents have a good knowledge, 87.9%, of hypertension, but only 61% (85) of academic and 47% (54) non-academic staff knew that hypertension can be inherited. Total 40% (56) academic, 44.8% (52) non-academic claimed to have multiple source of information about hypertension. Knowledge on risk factors of hypertension was poor, 20%.
Conclusion: Knowledge level of respondents on hypertension was high, with moderate attitude but poor perception.
Keywords: Attitude, hypertension, knowledge, perception, University Port-Harcourt.

INTRODUCTION

Worldwide hypertension is one of the third leading risk factor contributing to death, surpassed only by malnutrition and smoking[1]. Hypertension is mainly due to an interaction of environment and genetic factors. Although the precise geneticfactors influencing blood pressure are largely unknown, many of the environmental and social factors that contribute to the development of high blood pressure are well known, and include obesity, excessive alcohol consumption, sedentary life style, unhealthy diet and stress[1]. According to the American Heart Association (AHA) approximately 86 million adults (34%) in United States are affected by hypertension which is defined as a systolic blood pressure (SBP) of ≥140 mmHg and/or a diastolic blood pressure (DBP) of ≥90 mmHg. Worldwide raised blood pressure is estimated to contribute up to 75 million deaths. Globally the overall prevalence of raised blood pressure in adults aged 25 years and above was around 40% in 2008 and the prevalence in high income countries was lower at 35%[2]. The overall prevalence rate of hypertension in sub Saharan Africa was estimated at 16.2%, ranging from 10.6% in Ethiopia, to 26.9% in Ghana[3]. The overall prevalence of hypertension in Nigeria ranges from 8-46.4% depending on the study target population, type of measurement and cutoff value used for defining hypertension[4]. Accurate assessment of knowledge of high blood pressure (HBP) is an important first step to identify individuals in need of HBP education; since knowledge is a prerequisite for a patient to perform appropriate HBP self care[5].
Substantial improvement has been made with regard to enhancing awareness and treatment of hypertension[6]. However a National Health Examination Survey (NHANES) spanning from 2011-2014 revealed that 34% of US adults aged 20 years and older are hypertensive and NHANES 2013-2014 data showed that 15.9% of these hypertensive adults are unaware

they are hypertensive. These data have increased from NHANES 2005 - 2006 data, that showed 29% of US adult aged 18years and older were hypertensive and that 7% of these hypertensive adults have never been told that they have hypertension. Furthermore, of those with high blood pressure, 68% were being treated with anti-hypertensive agents, and only 64% of the treated individuals had controlled hypertension. In addition previous data from NHANES estimated that 52.6% (NHANES 2009-2010), 55.8% (NHANES 1999-2000) of adults aged 20 years and older have pre- hypertension, defined as untreated SBP (systolic blood pressure) of 120-129 mm Hg or untreated DBP (diastolic blood press) of 80-89 mm Hg. Barriers to hypertension care and control are well recognized and exist at patient, provider, and organizational levels[7]. These barriers include lack of knowledge about the seriousness of untreated hypertension and the benefits of controlling hypertension, unemployment, alcohol consumption, and illicit drug use, cost of care and medication side effects, as well as complexity of the regimen[7]. The relationship between blood pressure and risk of cerebrovascular disease events is continuous, consistent and independent of other risk factors. The higher the blood pressure, the greater the chance of myocardial infarction, heart failure, stroke, and kidney disease[8].

Epidemiological study by Akinkugbe 1999[9] on knowledge of hypertension, revealed that participants demonstrated poor knowledge about hypertension and that only 33.8% of those with elevated blood pressure were aware. In another study[10], awareness, treatment and control of hyper-tension were reported to be generally low with attendant high burden of hypertension related complications. In order to improve outcome of cardiovascular disease in Africans, public health education to improve awareness of hypertension is required. In a descriptive survey to understand the current status of hypertension, awareness, and attitude[11], the authors reported that patients were knowledgeable about hypertension in general but less knowledgeable about specific factors related to hypertension. A cohort study in North Carolina on high blood pressure knowledge among primary care patients with known hypertension, showed that significant number of respondents (26%) did not know that most of the time people with raised blood pressure do not feel it[12]. Meanwhile in a descriptive study carried out on hypertensive patients of LUMHS, result showed that only 6% of respondents had knowledge of the complications of hypertension[13]. In another study, findings showed that about 24% of the respondents were unaware of the causes of hypertension and the most frequently mentioned cause was psychosocial stress[14].

The study among hypertensive patients attending outpatient clinic of Olabisi Onabanjo University Teaching Hospital reported inadequate knowledge about hypertension among the target group, as only 37% were aware that hypertension should be treated for life[15]. In another study among staff of the University of Ibadan, Oyo State, findings revealed that knowledge of risk factors attributed to hypertension was relatively low among the respondents, although some respondents have a high level of knowledge about complications of hypertension, meanwhile attitude towards the illness was still very poor[16].

A similar study in Owerri-Nkwoji Community in Imo State, showed that the participants exhibited high level of awareness of hypertension, and positive attitude towards prevention of hypertension, but a significant number (53.3%) have misconceived idea about the cause of hypertension, as they believed that hypertension can be sent to one by one's enemies[17].

Accurate assessment of HBP knowledge is an important first step to identify individuals in need of HBP education; since knowledge is often a prerequisite for a patient to perform appropriate HBP self care[5]. This study thus, aimed to assess the knowledge, attitude, and perception (KAP) of hypertension among the staff of University of Port Harcourt, Rivers State.

METHOD

Study area

The study was conducted in University of Port Harcourt, Rivers State, South - South Zone, Nigeria, between June and October 2019. Port Harcourt is a metropolitan City in South - South Zone of Nigeria, in Niger Delta region. It is the capital of Rivers State. The University has over 5000 staff members comprising academic and administrative staff, across its 12 Faculties.

Study design

The study was a cross sectional carried out across all the staff of the University. Pre tested self -administered questionnaire was used to collect necessary information from the respondents. The questionnaire was self- administered, but delivered to the staff in their offices and collected immediately to avoid inter-consultation with colleague or referring to sources for answers. Average of twenty (20) questionnaires were distributed and collected each day for over a period of one month, until the required sample size was obtained. The required pieces of information were extracted. The questionnaire was structured in four parts: Demographics data; Knowledge data; Attitude data; and Perception data.

Ethical approval

The ethical approval was obtained from the University ethics committee before commencement of the study. The respondents, consent was also obtained before the questionnaires were administered. Confidentiality was assured and participation was voluntary.

Sample size

The required sample size was determined using Leshie Kish formula[18]:

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

n= minimum sample size; z= standard normal deviation 95% (1.96); p= prevalence of hypertension in Port Harcourt (21.3%) (19): d= margin of error (0.025); q= complementary probability of p + q= 1

$$n = \frac{(1.96)^2X0.21(1-0.2)}{(0.025)^2} = \frac{(1.96)^2X0.21X0.79}{(0.025)^2}$$

Thus, n= 255

A total of 255 was obtained as (n) and rounded up to 260 to accommodate attrition.

Data collection

Data were collected using structured questionnaire adopted from reviewing structures. About 13 questions that included closed ended and open ended questions were distributed into the 4 parts of the questionnaire. The questionnaire was tested for its readability and understanding to the public using staff from the adjoining University, University of Science and Technology, Rumuola. The data were analyzed using statistical package for Social Sciences, SPSS version 16, for mean, percentage, standard deviation. The data were analyzed in terms of number and percentage of respondents with correct knowledge on symptoms, risk factors, and causes of hypertension. The number and percentage of those with the correct attitude and perception towards the preventive measures were also determined.

RESULTS

The demographic information of the respondents in this study is given in Table 1. A total of 256 respondents gave their consent and participated in this study, 140 academic staff and 116 non- academic staff. The males were 94(67.1%) and 64(55.2%) non academic; females 46(32.6%) academic and 52(44.8%) non academic. Overall age range was 20 - ≥ 60. Most academic staff 51(36.4%) were within 50-59 yrs, followed by 40(28.6%) who were between 40-49 yrs. Meanwhile for non academic staff, most 43(37.1%) were within 40 - 49 yrs and none was above 60 yrs of age.

Table 1: Demographic data of respondents.

Variable	Academic Staff N=140(Percentage)	Non Academic Staff N=116(Percentage)
Gender		
Male	94(67.1)	64(55.2)
Female	46(32.9)	52(44.8)
Age (yrs)		
20 - 29	7(5)	8(6.9)
30 - 39	32(22.9)	27(23.3)
40 - 49	40(28.6)	43(37.1)
50 - 59	51(36.4)	38(32.8)
≥ 60	10(7.1)	0(0)
Marital Status		
Single	21(15)	36(31)
Married	119(85)	80(69)
Divorced	0(0)	0(0)

Respondent's knowledge about hypertension

A total of 140(100%) academic staff and 116(100%) non-academic staff claim to have heard about hypertension. Total 85(61%) academic staff and 54(47%) of non academic staff claimed to know that hypertension can be inherited. The overall knowledge score of respondents about hypertension was obtained as 77.1% as calculated and shown in Table 2.

$$\text{Overall Knowledge} = \frac{\text{Total correct response}}{\text{Total possible correct response}} x100$$

$$= \frac{395}{512} x100 = 77.1\%$$

Generally, the respondents have a good knowledge, 77.1%, about hypertension, but only 85(61%) of the

academic staff and 54(47%) of non academic staff know that hypertension can be inherited.

Source of information about hypertension

Most academic staff, 56(40%) and 52(44.8%) non - academic staff claimed to have multiple sources of information about the knowledge of hypertension. From the academic staff, 21(15%) claim to have heard from television, 2(1.4%) claim to have read from internet, 11(7.8%) from books, 12(8.6%) from friends/relatives, 38(27%) from hospital/health workers. While 56(40%) claimed to have heard from several sources which include television, internet, books, friends/relatives, hospital and health workers.

Meanwhile, among non-academic staff, 14(12.1% claimed to have heard from television, 10(8.6%) from books, 21(18.1%) from friends/relatives, 19(16.4%) from hospital and health workers, but none sourced information from the internet. However, 52(44.8%) claimed multiple sources of information which include television, books, friends/relatives, and hospital/health workers

Knowledge of respondents about risk factors for hypertension:

Among the academic staff only 6(4.3%) agreed that advance in age is a risk factor to hypertension.

Table 2: Respondents' knowledge about hypertension.

	Academic Staff N=140	Non-academic Staff N=116
Questions	Yes (%)	Yes (%)
Have you heard about hypertension?	140(100)	116(100)
Do you know that hypertension can be inherited?	85(61)	54(47)

Table 3: Attitude of respondents towards hypertension.

	Academic Staff N=140	Non-academic Staff N=116
Questions	**Correct response (%)**	**Correct response (%)**
Do you worry about hypertension?	97(69.3)	63(54.3)
Have you been screened for hypertension?	87(62.1)	52(44.8)
Are you willing to be screened for hypertension?	50(35.7)	63(54.3)

Total 16(11.4%) academic staff agreed that tobacco smoking is a risk factor, 6(4.3%) admitted physical inactivity, another 6(4.3%) agreed to obesity as risk factor and 106(75.7%) admitted to multiple factors that can cause hypertension that include advanced age, physical inactivity, tobacco smoking and obesity. Meanwhile, among the non-academic staff, 12(10.3%) agreed that advance in age is a risk factor, 8(6.9%) agreed that tobacco smoking is a risk factor, 20(17.2%) agreed to physical inactivity, 15(12.9%) agreed to obesity, while 61(52.6%) have knowledge of multiple risk factors which include advanced age, tobacco smoking, physical inactivity, and obesity. The overall knowledge on risk factors for hypertension is moderate, 54.7%. Attitude of respondents towards hypertension is shown in Table 3. Total 97(69%) of academic staff worry about getting hypertension, as 63(54%) of non academic staff were similarly worried. Yet only 52(45%) of non academic staff had screened for hypertension as 87(62%) of academic staff had screened for hypertension. However, while 63(54.3%) of non academic staff are willing to be screened for hypertension, only 50(35.7%) of academic staff show the same willingness.

$$\text{Attitude level of Academic Staff} = \frac{\text{Total correct attitude}}{\text{Total possible correct attitude}} \times 100$$

$$= \frac{234}{420} \times 100 = 55\%$$

$$\text{Attitude level of non academic staff} = \frac{\text{Total correct attitude}}{\text{Total possible correct attitude}} \times 100$$

$$= \frac{178}{348} \times 100 = 51.1\%$$

The attitude level of the academic staff was good, though only 35.7% were willing to be screened for hypertension. Perception of respondents towards hypertension is given in Table 4.

Table 4: Perception of respondents on hypertension.

	Academic Staff N=140	Non-academic Staff N=116
Questions	Correct response (%)	Correct Response (%)
Do you think hypertension can be cured?	83(59.3)	72(62)
Do you think someone with hypertension can live a full life?	105(75)	86(74.1)
Do you think someone with hypertension should be avoided?	10(7)	0(0)

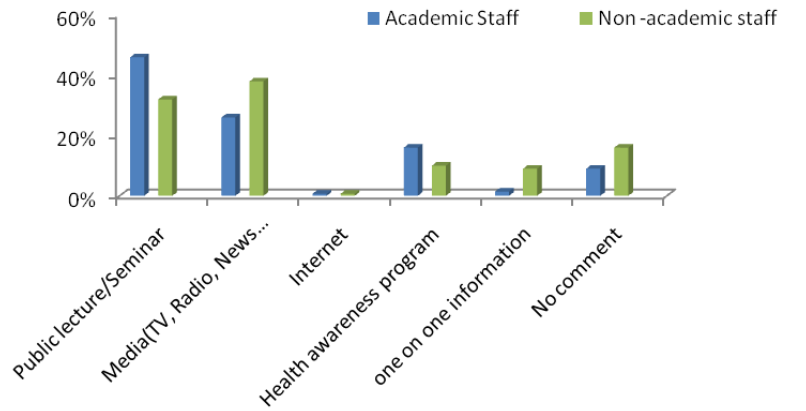

Figure 1: Respondents view on best way to educate the public about hypertension.

Total possible Correct perception 83(59%) academic staff and 72(62%) of non academic staff claimed hypertension can be cured, as 105(75%) academic staff and 86(74%) non academic believed that someone with hypertension can live a full life. On the other hand, 10(7%) of academic staff was of the opinion that someone with hypertension should be avoided, while none among non academic staff share the same opinion. Respondents' view on the best way to inform people about hypertension is shown in Figure 1.

$$\text{Overall Perception level} = \frac{\text{Total correct perception}}{\text{Total possible Correct perception}} \times 100$$

$$= \frac{356}{768} \times 100 = 46.4\%$$

Most (64(46%) of the academic staff chose public lectures/seminars as means for public education on hypertension, while very few among the two groups, 0.7% in each case opt for internet.

DISCUSSION

Two hundred and fifty six (256) respondents participated in this study that assessed the knowledge, attitude and perception of University staff, comprising academic and non academic staff. Most of the participants were of older age, ranging between 50-59 yrs for academic staff and 40-49yrs for non academic staff. This study identified good knowledge about hypertension among the academic and non academic staff. There was no significance difference (p>0.05) between knowledge level about hypertension among the two groups, academic staff and non academic staff. The knowledge level of the respondent was 77.1% which was higher than similar studies[15], where 34.5% knowledge level, was obtained among patients at University Teaching Hospital, Ogun State, and 26.7% among rural dwellers in Owerri-Nkworji[17]. The high knowledge level of the current study may be attributed the category population that was studied.

The overall knowledge of risk factor was 20%, which is relatively low as compared to 35% knowledge of risk factor obtained in a similar study among staff of University of Ibadan[16]. Meanwhile, higher knowledge on risk factors for hypertension of 76%, among hypertensive patients may be attributed to patient education possibly given during patients' visit for consultation or for medication refill. Though the present result was still higher than 14% obtained by other study groups[14,17] in which misconception about hypertension may have contributed to participants' unawareness of the effect of risk factors like obesity, cigarette smoking and inactive life style. This poor knowledge on risk factors may be attributed to lack of exposure to seminars or participation in outreach programs that can educate people. This simply implies that more awareness campaign should be encouraged; if possible a one- on-one interaction should be encouraged in the University community by the health workers.

Most of the respondents, academic and non -academic agreed that public lectures/seminars are the best way to educate people on hypertension. This is followed by media means. This implies that the healthcare workers should be encouraged to intensify the level of dissemination of information on the awareness of hypertension. The attitude level of respondents in this study is moderate, 65.5%, of which 48% claimed they are worried about hypertension and 75% are willing to be screened for hypertension. This result compares closely to previous study[15], in which the respondents believed that they will require no medication once they achieve control of their blood pressure. Attitude of individual towards hypertension goes a long way to determine the approach the individual applies to prevent the disease or to control the disease if present.

The perception of respondents obtained in this study is poor, 46.4%, below average. This result is below the finding of similar study[17], where the perception was slightly above average, 53.3%. Current study showed that 59% of academic staff and 62% of non -academic staff believe that hypertension can be cured. Thus it's likely that the individuals who knew that hypertension is not curable will have better attitude towards making conscious effort to prevent hypertension. The findings of this study support a well- designed health education activities that must be appropriately planned and implemented at national and local level, directing attention on the lapses in knowledge, misconceptions and management of risk factors for hypertension, such as sedentary life style, dietary modification, and encouraging regular screening exercises for hypertension. This is important to improve general knowledge of hypertension.

CONCLUSION

Knowledge level of respondents about hypertension in this study is high, but poor on the risk factors. Attitude level is moderate with poor perception towards hypertension. Public lectures and seminars are the best ways to improve knowledge about hypertension.

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AUTHOR'S CONTRIBUTIONS

Mgbahurike AA: writing original draft, study conception and design. **Lelesi TN:** conceptualization, literature survey, methodology. Both authors read and approved the final version of the manuscript.

DATA AVAILABILITY

Data will be made available on reasonable request.

CONFLICT OF INTEREST

None to declare.

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