

ORIGINAL PAPER**Blood Pressure Monitoring Practices and Health Seeking Behaviours
among University Staff in Nigeria****Joel O. Faronbi, BNSc, MSc, RN**

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Abstract

Background: Knowledge of risk factors associated with high blood pressure and regular blood pressure screening is essential for early detection and treatment of hypertension and subsequently reduces the risk of cardiovascular disease, cerebrovascular disease, and mortality. This study examined the knowledge of risk factors associated with hypertension and further examined the practice of regular blood pressure (BP) monitoring in this study population.

Methods: The study employed a quantitative design to elicit information about perception and knowledge of risk factors associated with hypertension and blood pressure monitoring practices. Three hundred and six respondents selected through a multi stage sampling technique formed the sample for this study. Data was collected with the aid of a validated self-administered questionnaire, and this was analysed using Statistical Package for Social Sciences.

Results: The result revealed that (45.8%) had good knowledge of risk factors associated with hypertension. However, a very large number (67.0%) practiced BP monitoring poorly and they patronize patent medicine store (42.5%) as their health seeking behavior when detected high blood pressure. It further revealed that there exists a significant relationship between knowledge of risk factors associated with high blood pressure and blood pressure monitoring ($\chi^2 = 29.8$; $p = 0.000$) and also there exist a positive correlation between knowledge of risk factors and age ($r = 0.31$, $p = 0.002$) and level of education ($r = .059$, $p = 0.305$), socioeconomic status of respondents ($r = 0.213$, $p = 0.000$). Furthermore, finding shows that there exist a significant relationship between the blood pressure monitoring and age ($r = 0.31$, $p = 0.000$) and level of education ($r = -0.020$, $p = 0.727$) of respondents practice ($r = 0.172$, $p = 0.003$).

Conclusion: This study concludes that measures should be put in place to ensure that workers participate in regular blood pressure screening; this will help in prevention and early detection and better prognosis of hypertension.

Key Words: Behavior, blood pressure, cardiovascular disease, health seeking, monitoring, perception, risk

Background

Hypertension (HTN) is an important public health challenge in both economically developing and developed countries (Erhun, et al., 2005). Several studies have confirmed that it is a major non communicable diseases and it is a leading cause of cardiovascular disease and a primary cause of stroke, coronary heart disease, heart failure, kidney disease, and blindness. It is the leading cause of cardiovascular disease worldwide (Dong et al., 2007; Hajjar et al., 2006). Lopez et al., (2006) reported that in 2001, high blood pressure represented 5.6% of the global DALY loss; more than five-sixths of this burden occurred in low- and middle-income countries. Kearney et al., (2005) also observed that the estimated total number of adults with hypertension in 2000 was 957 to 987 million, of which 625 to 654 million were in economically developing countries. This number is predicted to increase to 1.56b by the year 2025.

Additionally, Jones et al., (2003) stated that hypertension affects 20 million people in sub-Saharan Africa, and this makes it to be the leading cause of hospitalization and mortality. Hypertension is one of the most common and non-communicable diseases. (Abdullahi & Amzat, 2011) declared that more than 11% of Nigerian adult are living with the illness. A recent community based study of rural and semi urban population in Enugu reported that put the prevalence rate of hypertension in Nigeria at 32.68% (Ulasi, Ijoma, & Onodugo, 2010). Working class adults constitute the main risk group for hypertension. According to Erhun et al. (2005), the prevalence rate among working class adults in a university community in the South West, Nigeria is 21%.

Moreover, Omuemu, Okojie, and Omuemu (2008) states that there is a low level of awareness of hypertension globally. They further documented an awareness rate of just 18.55% in Nigeria. The level of detection, treatment and control of hypertension is one of the issues usually considered in dealing with perception and practice of regular blood pressure monitoring. According to Cappucio et al., (2004) and Iyalomhe and Iyalomhe (2010), the level of detection, treatment and control of hypertension in West Africa is low and worrisome. The authors further explain that there is a gender inequality in the detection of hypertension, while

the reason for this is still unknown. Hyman and Pavlik (2002) opined that proper education through programs directed at worksite will heighten sense of responsibility for the successful management/prevention of hypertension.

It is undeniable that the early detection and treatment of HTN reduces the risk of cardiovascular disease, cerebrovascular disease, and mortality. One of the ways of keeping the blood pressure down (normal) is by monitoring the blood pressure regularly so as to keep track of the blood pressure and to make sure it is under control. For an individual to accurately and regularly monitor blood pressure, he is expected to possess an adequate knowledge and a positive perception of blood pressure and its associated risks factors. Even though, researchers (Abdullahi & Amzat, 2011; Erhun et al., 2005; Ulasi et al., 2010) have studied on knowledge of blood pressure, little has been done on the assessment of practice of blood pressure monitoring and on establishing relationship between these variables (knowledge and practice). Therefore, this study will assess the knowledge and practice of regular blood pressure monitoring among staff of FUTA, Nigeria. This is with the view to identifying gaps and possibly suggests ways of meeting them accurately, meaningfully and pragmatically. This study will like to answer the following research questions. What is the level of knowledge of the study group about risk factors associated with high blood pressure (hypertension)? And how is blood pressure monitoring practiced among them?

Methods

This quantitative study employed a descriptive design to assess the knowledge and practice of regular blood pressure monitoring among staff of the Federal University of Technology, Akure (FUTA).Akure, Ondo state. Nigeria. It was carried out at FUTA, Akure. Ondo State. FUTA is a tertiary institution, established in 1981, located at the outskirts of the Akure, Ondo State, Nigeria. The institution is made up of six schools and 30 academic and non-academic departments. It has a population of 1500 academic and non-academic staff (Source: Academic planning department FUTA, Record). The aim of the institution is to ceaselessly promote technological advancement through motivated and skilled staff, geared towards

global needs. In order to fully achieve this goal, the staff must be motivated to the optimal level of wellness. The study population consisted of all the one thousand and five hundred staff members of FUTA and three hundred and sixteen (316) respondents selected through a multi stage sampling technique formed the sample for the study. The sample size was calculated using Taro Yamane sample size formula as cited by (Israel, 1992).

Data was collected using a self-administered questionnaire developed through extensive literature search. It is in three sections: Section A consist of demographic data, Section B also consist of 16 items that assess for knowledge of risk factors and symptoms of high blood pressure. For the responses, score of 2, 1 and 0 was given for correct, unsure and incorrect and reversed scoring was given for negative knowledge items. The minimum score is 0 and the maximum score is 32. The third part, Section C contains item that elicit information on practice of blood pressure monitoring. For a good practice items, score of 0, 1 and 2 for never, seldom and always respectively. The scoring was reversed for negative practice items. The minimum score is 0 and the maximum score is 14. The instrument was tested for validity and reliability before final usage. The validity and reliability of the instrument was established through a pilot test conducted on twenty respondents in a neighboring state.

Permission for the study was obtained from the authority of the institution. Ethical approval for the study was obtained from the Health Research Ethics Committee (HREC) of the Institute of Public Health (IPH), Obafemi Awolowo University, Ile-Ife, Nigeria. The respondents were also assured of confidentiality of the findings and liberty to discontinue their participation at will. In addition, informed consent was obtained from them before administering the questionnaire.

Data generated for the study was analyzed using Statistical Package for Social Sciences (SPSS version 16). Statistical techniques employed include descriptive statistics (frequency and percentage) and inferential statistics (chi square and correlation coefficient). Initial analysis was done by generation of frequency tables while further analysis involved cross-tabulations to

explore statistical relationships between variables.

Results

Table 1 presents the socio demographic characteristics of the respondents. Out of three hundred and sixteen questionnaires that were distributed, three hundred and six were returned and this gave a response rate of 96.8%. The age of the respondents ranged from 19 to 63 years, with a mean of 36.5 years (± 2.015). 33.3% ($n=306$) of the respondents were between the ages of 41 to 50 years, Education profile revealed that an overwhelming majority (72%) ($n=306$) possessed tertiary level of education. Similarly, majority (69.0%) were in the senior cadre. Majority, (38.3%) ($n=306$) of the respondents had years of experience that ranges from 6-12 years and most of them (54.2%) ($n=306$) earns 41,000 naira and above. Table 2 presents the knowledge of risk factors associated with hypertension and practice of blood pressure screening among the respondents. A large number (67.0%) ($n=306$) possesses a good knowledge of risk factors associated with high blood pressure. However, blood pressure screening was poorly done by them, as 59.5% ($n=306$) of the respondents practice blood pressure screening poorly. Furthermore, there is a significant relationship between knowledge of risk factors associated with high blood pressure and practice of blood pressure monitoring.

Table 3 presents responses about actions taken by respondents whenever they detect high blood pressure. A large number (35.9%) ($n=306$) manage their condition by purchasing drug from the patent medicine store, while another large proportion did not take any action. Similarly, further statistical test using correlation coefficient revealed that there exist a significant relationship between the knowledge of risk factors and age ($r=0.31$, $p=0.002$) and socio-economic status of respondents ($r=0.213$, $p=0.000$), however, there is no significant relationship between knowledge of risk factors of high blood pressure and level of education ($r=0.059$, $p=0.305$). Furthermore, findings show that there exist a significant relationship between the blood pressure monitoring (practice) and age ($r=0.31$, $p=0.000$) and socio-economic status of respondents ($r=0.172$, $p=0.003$) and no significant relationship between blood pressure monitoring and level of education ($r=-0.020$, $p=0.727$)

Table 1: Sociodemographic profile of the respondents

<i>Ages</i>		
< 20	9	2.9
21 -30	78	25.5
31-40	66	21.6
41-50	102	33.3
51-60	48	15.7
>60	3	1.0
Total	306	100.0
<i>Level of Education</i>		
No formal education	1	.3
Primary certificate	27	8.8
Secondary certificate	56	18.3
Tertiary	222	72.5
Total	306	100
<i>Sex</i>		
Male	171	55.9
Female	135	44.1
Total	306	100.0
<i>Designation(Cadre)</i>		
Senior cadre	211	69.0
Junior cadre	95	31.0
Total	306	100
<i>Years of Experience</i>		
0-6years	90	29.4
7-12years	117	38.3
13-18 years	40	13.1
19-24 years	39	12.7
25-30 years	20	6.5
Total	306	100
<i>Monthly Earnings(Basic)</i>		
20-30,000	59	19.3
31-40,000	74	24.2
41,000 and above	173	56.5
Total	306	100

Table 2: Respondent's knowledge, perception and practice of blood pressure monitoring

Variables	Frequency (N=306)	Percentage (%)
<i>Perception</i>		
Poor perception	56	18.3
Fair perception	88	28.8
Good perception	162	52.9
Total	306	100
<i>Knowledge</i>		
Poor knowledge	58	19
Fair knowledge	108	35.2
Good knowledge	140	45.8
Total	306	100
<i>Practice</i>		
Poor practice	182	59.5
Fair practice	50	16.3
Good practice	74	24.2
Total	306	100

Table 3: Strategies employed for the management of High Blood pressure

Variable	n	%
Go to hospital	41	13.4
Patent medicine store	130	42.5
Take concoction	45	14.7
Do nothing	90	29.4
Total	306	100.0

Discussion

The age of the respondents employed for this study ranged from 19 to 60 years. In Nigeria, the retirement age is 60 years, any individual at this age is considered a "senior citizen", and hence, none of the respondents in this study is above sixty years of age (Faronbi, 2008). Age has been identified as one of the risk factors in hypertension (Oliveria et al., 2005; Önal et al., 2004; Tassanee, Oranut, & Chaweewon, 2011). The results of this study shows that majority of the respondents are within the age group of 41-60 years. This represent the latter adulthood

years and they are at risk for developing high blood pressure. Findings from the study also revealed that majority of the respondents were male. This is in line with earlier studies (Abdullahi & Amzat, 2011; Cappucio et al., 2004) who observed a similar trend in their studies. This may result from the fact that men need to work and earn enough income since they are in control of the family.

The results of this study also revealed that a large number of the respondents have tertiary education. This may not be unconnected with the fact that this study was conducted in a university

environment which is known for teaching and research and most workers are expected to possess a level of education that is commensurate with their jobs. This may also be responsible for the large number of people who were in senior staff category. Those who possess minimum of 1st degree are employed into the senior cadre category. In addition, some staff in junior category may upon fulfilling certain requirement be elevated into the senior category level. This finding is in line with previous study (Abdullahi & Amzat, 2011) which revealed that majority of their respondents possess either 1st, 2nd or PhD degrees. This study also showed that more than half of the respondents earn above #41,000. This may not be unconnected with the fact that a large number possesses a higher level of education which is expected to provide a better earning power. Also in Nigeria, the minimum wage is #18,000 and anybody in government employment is not expected to earn below this level of income.

Findings from this study also revealed that majority of the respondents have good knowledge of the risk factor associated with hypertension. This supports previous work by Kaplan (2010) who observed that a greater percentage of people had valid knowledge of the risk factor of hypertension. This is may not be surprising; due to the fact that this study was conducted in a University environment where such knowledge is expected to be high. This is however, contrary to findings of other authors (Abdullahi & Amzat, 2011; Iyalomhe & Iyalomhe, 2010; Samal et al., 2007) who recorded a relatively low level of knowledge about the risk factors associated with hypertension among their populations of study. Celentano et al. (2004) and Oliver-McNeil and Artinian (2002) argued that knowledge about cardiovascular and its risk factors is still insufficient among respondents including those with established Cardiovascular Diseases (CVD).

Studies of Jafary et al. (2005) and Poon, Etti and Lal (2010) have shown that knowledge is an important part that promotes behavioral changes and people must have adequate and correct information on CVD risk factors in order to implement preventive behavior. It has been observed that there was an association between poor knowledge with lacking of preventive practice (Jafary et al., 2005). Moreover, Poon, Etti & Lal (2010) revealed in their study that

higher levels of education were associated with an increased rate of BP monitor. However, this is contrary to the finding of this study. Respondents possessed a good level of knowledge of risk factors associated with high blood pressure; however, blood pressure monitoring was poorly done among them. This is in line with the findings of (Abdullahi & Amzat, 2011) who observed that a number of people adopt practice that contradicts their level of knowledge. Furthermore, this study established that there is a significant relationship between knowledge of risk factors and practice of blood pressure monitoring ($p < .05$).

This study has also revealed actions taken by respondent in meeting their health care need as regard high blood pressure (hypertension). Findings show that a large number (42.5%) of the respondents patronise patent medicine store. Waweru et al., (2003) observed a similar trend in their study population where a large number of their respondents manage their health conditions through drugs purchase over the counter. In Nigeria, drug distribution is poorly regulated and this made patent medicine store densely located across the streets, both in the cities and villages. The patent medicine store provides opportunity for respondents to purchase both over the counter and prescription medications. This is often the practice in many developing and under developed economically deprived countries where most episodes of illness are treated by self-medication and is common practice due to quality concerns related to healthcare delivery systems as well as skepticism about the benefits of professional healthcare (Hussain et al., 2011). Similarly, Kiyingi and Lauwo (1993) reported that in Pakistan, almost every pharmacy sells drugs without a prescription; a phenomenon seen in many developing countries. Hussain et al. (2011) further reiterated that drug retail outlets are major sources of drugs that are used for self-medication and the availability of drugs in informal sector contribute to the increase in the practice of self-medication.

Conclusion

This study concludes that although majority had good knowledge of the risk factors associated with hypertension, their frequency of practicing the blood pressure monitoring is relatively low. This low level of practicing this important health promoting behavior, as revealed by this study,

poses a great challenge to nursing and other health professions to devise innovative means of influencing the community members to be engaged in monitoring their blood pressure regularly and voluntarily. Further study might be required to probe deep into the fundamental factors responsible for the low level of practice. Public education in form of seminars/conferences and organizing a regular periodic screening for the employees will go a long way to help in tackling the issue. It is also important for the university to make use of relevant department (such as health centre) to achieve this important task. All institutions should be encouraged to focus on educational program that will have direct impact on the people and produce the expected health promoting behavior (regular blood pressure monitoring). Also, establishment and maintenance of National High Blood Pressure Education Program (NHBPEP) should be encouraged in this nation as it has happened in the United States, so as to achieve the mandate.

Additionally, health workers, especially those in the University health centre have to be actively involved in educating the people and also make themselves examples by avoiding the risk factors. Furthermore, accessible and functional health care facilities should be established within the reach of the people that will help in tackling the over dependent on patent medicine store.

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