Assessment Of Knowledge, Awareness And Uptake Of Hypertension Monitoring Services Among Civil Servants In Imo State, South Eastern Nigeria

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Abstract—**Hypertension is a non-infectious disease, causing half of all strokes and heart diseases with its negative consequences growing rapidly. Regrettably, many people have poor knowledge of the disease, not properly aware of the disease or do not monitor their blood pressure adequately. This paper assesses the levels of knowledge, awareness, uptake of hypertension monitoring services and the type of hypertension monitoring services among civil servants in Owerri Municipal Local Government Council of Imo State, Nigeria.**

Keywords—Hypertension, Knowledge, Awareness, Monitoring Services and uptake

1. Introduction

In the world today, hypertension (abnormal increase in blood pressure) is one of the most common diseases that pose trait to human life. It is a serious medical condition causing half of all strokes and heart diseases with its negative consequences growing rapidly (Angaw, Dadi & Alene, 2015). Hypertension is classified as a non- infectious disease because it is not caused by any pathogen but because of a gradual degradation of single or multiple body systems by some factors that may be controllable with healthy lifestyles (Akinlade, 2016).

Globally, an estimated 26% of the world's population has hypertension and its prevalence is expected to rise to 29% by 2025. (Matthew, 2019). It causes about 7.1,000,000 deaths per year and 4.5% of the disease burden translates to 64,000,000 disability (Ezekwesili, Ononamadu, Onyeukwu, & Mefoh, 2016).

In societies known to be traditionally African, hypertension was once rare. Now, it has become a major public health burden because of its high prevalence (Essouma *et al*., 2015)**.** In 2000, adults with hypertension in sub- Saharan Africa was estimated to be 80,000,000. This figure was suggested to rise to 150,000,000 by 2025 based on the current epidemiological data projections (Van de Vijver *et al*., 2014). Urbanization and a shift towards western habits e.g. Smoking, unhealthy diets with excess salt & fat intake, physical inactivity among others, have been linked to be part of the reasons for the trends in hypertension prevalence in Africa (Essouma et al., 2015; Olawuyi & Adeoye, 2018).

Nigeria is the most populated country in Africa. The overall prevalence of hypertension in Nigeria ranges from 8% to 64% (Obarisiagbon, Osayi, & Wagbatsoma, 2018).

Therefore, it is important to adopt the appropriate ways of managing and controlling hypertension. One of these ways, is proper use of hypertension monitoring services. Hypertension monitoring services are those services that help to keep in check the abnormal high increase in the blood pressure of hypertensive persons. This may be done in order to control hypertension and to reduce morbidity and mortality rates due to hypertension emergencies and complications that occur due to rapid rise in blood pressure in patients with chronic hypertension.

Hypertension-monitoring services may also be referred to the different modalities of blood pressure measurement used in the diagnosis, treatment and management/control of hypertension. The standard technique used in the measurement of blood pressure has been established and can be done with manual auscultation or with an automated oscillometric device (Ripley & Anna Barbato, 2018). In addition, blood pressure measurement is classified into two: Office blood pressure measurement and Out-of-the-office blood pressure measurement. This classification is referred to as the hypertension monitoring services and can be rendered in different ways. High risk for mortality and morbidity from potential complications of hypertension is linked to inappropriately managed, uncontrolled and undiagnosed HTN (Ale & Braimoh, 2017). Most civil servants leave for work early and probably sit in the office till the closing hours for almost all the days they go to work thereby making them physically inactive as a result of prolonged sitting (Olawuyi & Adeoye, 2018). Physical inactivity is one of the risk factors associated with hypertension. Irrespective of the sedentary lifestyle of civil servants, they are also at risk of being overweight and obese for those of them that have adopted unhealthy diets like snacking on foods that are energy dense or beverages that are sugar sweetened. However, only a very small amount of energy is required for their jobs. The relationship between HTN and obesity is in the

deposits of fats that in turn narrows or blocks the arteries (Olawuyi & Adeoye, 2018).

Therefore, it is important in this study, to assess the levels of knowledge, awareness, uptake of hypertension monitoring services and the type of hypertension monitoring services among civil servants in Owerri Municipal Local Government Council of Imo state, Nigeria. It is also potential to examine if the level of knowledge and awareness of hypertension monitoring service is associated with the uptake level of these services among the civil servants.

2. Materials and Methods

The materials and methods used in the study are as presented in the subsections hereunder.

2.1. Study Design

A cross-sectional design was adopted in the study.

2.2. Area of the Study

The study area is Owerri Municipal Local Government Area of Imo State, Nigeria. It is situated at the centre of the headquarters of the State, Owerri. It has an area of $58km^2$ and a population of 127,213 according to the 2006 census. Owerri municipal Local Government council is made up of seven departments which include: administration, finance, BPRS, health, social, work and agriculture. The total population of staff in Owerri Municipal Council is 492 which is made up of 145 males and 347 females.

2.3. Study Population

The study population consists of regular civil servants within the age of 21 - 60 in Owerri Municipal Local Government Council, Imo State.

2.4. Sample and Sampling Techniques

The Sample size was determined using Taro Yamane's method (Yamane, 1967),

$$n = \frac{N}{1 + Ne^2} \text{ ,}$$

Where,

n=sample size,

N=population size,

and $e=0.05^2$ (level of precision)

N=492 (total population of civil servants in Owerri Municipal LGA Council). Therefore,

n=$\frac{492}{1+492(0.05)^2}$

n**=**220.67.

Hence, an approximate sample size of 221 civil servants was taken.

Stratified random sampling was employed in the selection of the 221 civil servants to be included in the study. Each department in Owerri Municipal Council was considered as a stratum.

2.5. Instrument for Data Collection

Questionnaire were administered in written form to the selected civil servants for the data collection.

2.6. Methods of Data Collection

The questionnaire was administered to each selected civil servant for the study and retrieved after it was completed.

2.7. Statistical Analysis

The statistical tools used for the analyses of the data were, frequencies, percentages, bar charts.

2.8. Ethical Consideration

Verbal informed consent was obtained from all the participants after being told the purpose of the study before being allowed to participate in the study. Confidentiality was maintained at all levels of the study by avoiding use of names and other identifiers.

3. Results and discussions

In this section, the results of the analyses of data obtained are shown and discussed. The data were obtained from the responses of the respondents on items in the research instrument. Two hundred and forty-six (246) questionnaires were distributed, out which, two hundred and three (203) were returned with only two hundred one (201) validly completed. Of the 201, seventy-three (73) were males while one hundred and twenty-eight (128) were females. Nine of the respondents were within the age range of 21-30, seventy-three (73) within the age range of 31-40, one hundred and ten (110) within the age of 41-50 and nine (9) within the age of 51-60.

3.1 Level of Knowledge and Awareness of Hypertension

The results of the analyses of responses of respondents on their level of knowledge and awareness of hypertension are presented in Table 3.1.

Table 3.1: Results of Respondents' Level of Knowledge and Awareness of Hypertension

	Frequency	Percent (%)
Yes	201	100
No	0	0
Total	201	100

The results in Table 3.1 show that all the two hundred and one (201) respondents had knowledge of hypertension and were aware of it.

Level of awareness as seen in the result of this study is very high with all the respondents having heard of hypertension from mass media, awareness campaign and from hospitals as sources of their information, thereby showing the importance of these channels of communication in health. However, it was

observed that in-depth knowledge on the disease seems to be lacking in the sampled population of civil servants in Owerri Municipal Local Government Council in Imo State. This result is similar to that obtained in Akindele and Ayankogbe (2013) from a study carried out in Lagos State, Nigeria.

3.2 Respondents' Understanding of Hypertension

The results of the respondents' understanding of hypertension are presented in Table 3.2.

Table 3.2: Results of Respondents' Understanding of Hypertension

	Frequency	Percent (%)
High level of stress or tension	61	30.3
Rapid breathing or rising blood looking for a way out	45	22.4
Force of blood pushing against blood vessels walls	91	45.3

Old peoples disease	0	0
I don't know	4	2
Total	201	100

The results in Table 3.2 show that, of the 201 respondents, 91(45.3%) understood hypertension as force of blood pushing against blood vessels walls, 45(22.4%) understood hypertension as rapid breathing or rising blood looking for a way out, 61(30.3%) understood hypertension as high level of stress or tension while 4(2%) could not say exactly what their understanding of hypertension is.

3.3 Normal Blood Pressure Range by Respondents

The results of the respondents understanding of normal blood pressure is depicted in Fig. 1.
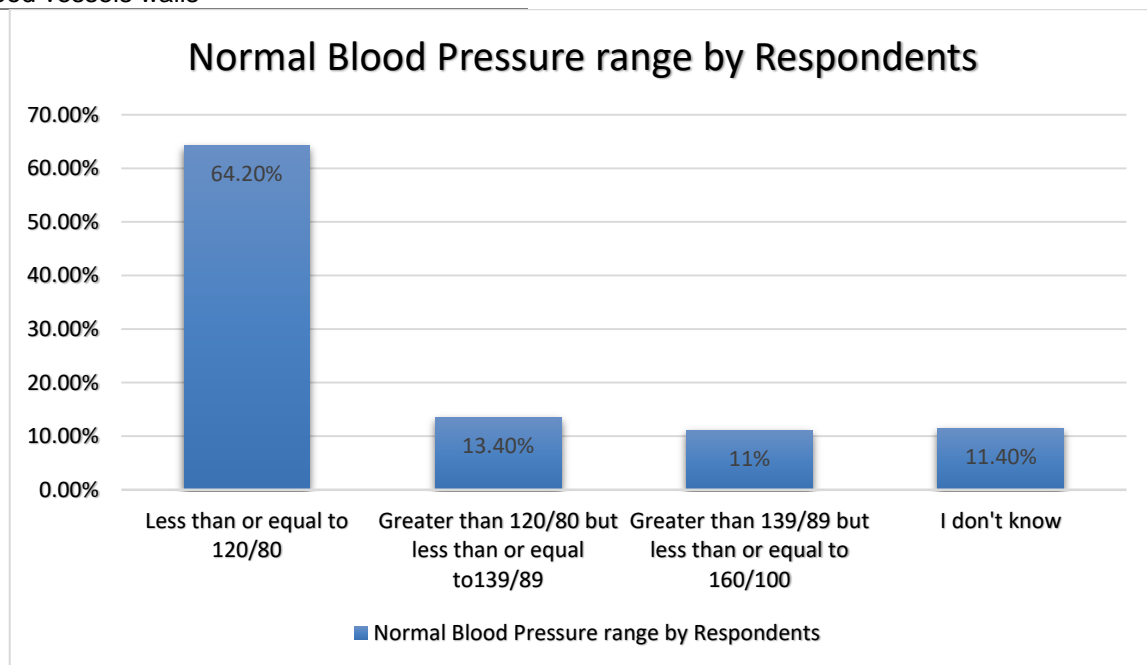

Figure 1: Results of Understanding of Normal Blood Pressure Range by Respondents

Fig. 1 show that 64.2% of the respondents understood normal blood pressure range to be less than or equal to 120/80, 13.41% understood it to be greater than 120/80 but less than or equal to 139/89, 11% understood it to be greater 139/89 but less than or equal to 160/100 and 11.41% had no knowledge of what the normal blood pressure range is.

4.1.1 Knowledge on if Hypertension can be Prevented and Managed

Table 13 show that, of the 201 respondents, 161(80%) persons said yes that HTN could be prevented and managed while 31(15.5%) persons said no to hypertension being able to be prevented and managed. Only 9 (4.5%) persons said they don't know.

Table 13: Respondents Knowledge on if Hypertension can be Prevented and Managed

	Frequency	Percent (%)
Yes	161	80
No	31	15.5
I don't know	9	4.5
Total	201	100

4.1.2 Participants Knowledge on Instrument used to Measure Blood Pressure

Table 14 shows that all the 201 participants (100%) knows the instrument used to measure/monitor blood pressure.

Table 14: Participants Knowledge on Instrument used to Measure Blood Pressure

	Frequency	Percent (%)
Thermometer	0	0
Barometer	0	0
Sphygmomanometer	201	100
Glucometer	0	0
Total	201	100

4.2 UPTAKE OF HYPERTENSION MONITORING SERVICES

Table 15 shows that, of the 201 respondents, 50 (24.9%) said that they had been diagnosed of hypertension before while 151 (75.1%) said that they had not been diagnosed of Hypertension.

Table 15: Respondents Diagnoses of Hypertension

	Frequency	Percent (%)
Yes	50	24.9
No	151	75.1
Total	201	100

4.2.1 Respondents Monitor of Blood Pressure

Table 16 shows that, of the 201 respondents, 149 (74.1%) said that they monitor their blood pressure while 52 (25.9%) said that they do not monitor their blood pressure. This can be related to their surface knowledge of the consequences of uncontrolled hypertension. Out of office blood pressure monitoring was found to be used more, especially the home blood pressure monitoring (HBPM) at convenience.

Table 16: Participants that Monitor Blood Pressure

	Frequency	Percent (%)
Yes	149	74.1
No	52	25.9
Total	201	100

4.2.2 How Respondents monitor their Blood Pressure

Table 17 shows that of the 149 respondents that said they monitor their blood pressure, 73 (49%) said they monitor their blood pressure manually using mercury/aneroid sphygmomanometer while 76 (51%) said they use an automated blood pressure device/monitor.

Table 17: Responses of Respondents on Instruments they use to Monitor Their Blood Pressure

	Frequency	Percent (%)
Manually using a mercury / aneroid sphygmomanometer	73	49
Using an automated blood pressure device/monitor	76	51
Total	149	100

4.2.3 Hypertension Monitoring Services used by Respondents

Table 18 shows where the respondents monitor their blood pressure. The table shows that 43(28.9%) persons said they go to the clinic, health centre, hospital & pharmaceutical store, 105 (70.4%) persons said they do it at home at their convenience, only 1 (0.7%) person monitors it alongside the daily activities.

Table 18: Hypertension Monitoring Services Used by Respondents

	Frequency	Percent (%)
Clinic, Health Centre, Hospital, pharmaceutical store	43	28.9
Home, at your convenience	105	70.4
As you carry out your daily activities	1	0.7
Total	149	100

4. Conclusion

From the foregoing study, awareness and knowledge of hypertension were at a high level. Majority of the respondents understood the meaning of hypertension and also understood normal blood pressure to be less than or equal to 120/80. The results of the study show that majority of the respondents knew that hypertension could be prevented and managed, It was observed that, the respondents majorly used Home Blood Pressure Monitoring service (HBPM) followed by Office Blood Pressure Monitoring services (OBPM). The results of the study also show that many of the respondents had not been diagnosed of hypertension.

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