



Prevalence and awareness of hypertension and associated risk factors among bank workers in Owerri, Nigeria

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ABSTRACT

Background: Hypertension is largely asymptomatic and common among adult Nigerians, and considered to be of public health importance. Banking work is associated with stress, a risk for hypertension. **Aim:** To evaluate the prevalence and awareness of hypertension and its associated risk factors among bankers in Owerri. **Methods:** This cross-sectional descriptive study was aimed at determining the knowledge, prevalence of hypertension and other risk factors for cardiovascular disease among bank workers in Owerri. We randomly selected banks by balloting in Owerri and assessed 194 bankers using a self-administered questionnaire on their knowledge and social habits. Their blood pressure (mmHg), weight (Kg) and heights (meter) were measured. Results are presented in proportions and odds ratio. **Results:** We studied 194 bankers; 100 males and 94 females. Most respondents (98%) had a good knowledge of hypertension but 80.4% (156) had poor knowledge of the risk factors of hypertension; 86.6% (118) and 59.3% (115) had poor knowledge of its treatment and complications respectively. The prevalence of hypertension was 12.4% with odds of a male being hypertensive 4.2 (95% CI 1.5 – 11.7), *P*-value= 0.006. Thirteen (68.4%) bankers with hypertension had good blood pressure control. Alcohol consumption in 12 (50%) and obesity in 9 (37.5%) bankers were the commonest cardiovascular risk factors. **Conclusion:** Bank workers in Owerri have a good knowledge of hypertension despite a low prevalence of hypertension. Additional educational effort aimed at addressing blood pressure control and life style modification is necessary among bankers.

Key words: Hypertension, prevalence, bankers, awareness, risk factors, cardiovascular disease

INTRODUCTION

Hypertension is one of the most prevalent non-communicable diseases and the most important preventable risk factor for premature death worldwide, being responsible for an estimated 45% of

death due to heart disease and 51% of deaths due to stroke globally.^[1] In Nigeria, hypertension is a very common non-communicable disease and of major public health importance. Overall, the prevalence of hypertension in Nigeria has been observed to have a range from 8-64% depending on the study population, type of measurement and cut-off value used for defining hypertension.^[2]



In Lagos South-West Nigeria, prevalence of hypertension was observed to be 36% in a hospital-based study^[3] and in Ibadan, it was observed to be 9.3% among urban workers.^[4] In Nsukka, South-East Nigeria, the prevalence was 21% among adults^[4] and 21.3% in Port-Harcourt, South-South Nigeria in a hospital based study^[5,6] and 30% among professionals like engineers, lawyers and accountants.^[7] In neighboring Bayelsa state, prevalence of hypertension was 27.8%.^[8] Among bankers in Benin city, Mid-West Nigeria, the prevalence of hypertension was observed to be 17.7%.^[9] However, among bankers in Ilorin, North Central Nigeria, the prevalence of hypertension was observed to be 34.4%.^[10]

In Nigeria, awareness of blood pressure status was observed to be 7.7% among men and 8.7% among women but significantly higher among previously diagnosed hypertensives.^[4] Among bank workers in Benin city, Edo state, 48.4% had correct knowledge of hypertension, 70.8% had good knowledge of its complications and 65.1% had good knowledge of its risk factors.^[9] While in Sokoto, 22.9% of bank workers and 33.3% of teachers had hypertension with a poor awareness of other risks for coronary heart disease.^[11] In India, the prevalence of hypertension among bank workers was 30.4% with the figure rising significantly with age and among the managerial staff.^[12]

The associated risk factors of hypertension include genetic or strong family history and other factors which include increasing age, obesity, smoking/use of tobacco, diabetes mellitus, dietary consumption of high salt content and saturated fat, sedentary lifestyle, stressful life, poor sleep and pregnancy.^[13-15] Among an eastern Nigeria population, alcohol consumption rate among adults was observed to be as high as 55.8%.^[16] Most times hypertension is symptomless and rarely accompanied by any clinical symptom; and in such circumstances usually discovered following a routine screening or accidentally when seeking healthcare for an unrelated problem in a hospital. Symptoms of hypertension observed include headaches (20.3%), palpitations (12.4%), chest pain (7.1%), blurred vision (7.1%), breathlessness, dizzy spells, tinnitus, vertigo and insomnia.^[17]

Also, many patients only become aware of their hypertensive status after the development of target organ damage like stroke, hypertensive retinopathy, ischemic heart disease, congestive heart failure, peripheral vascular disease or chronic kidney disease.^[18]

Management of hypertension involves conducting necessary investigations and treatment. Treatment involves lifestyle modifications including dietary changes, exercise and reduced ingestion of alcohol and smoking. treatment is aimed at controlling the blood pressure within the normal range using appropriate medications suited for the patient's circumstance using either monotherapy or combination therapy.^[19]

The banking industry in Nigeria is very competitive and is the hub of economic activities in the country. Prevalence of hypertension among bankers and other workers with occupations with a similar sedentary pattern has been found to be higher. Maroof *et al.* in 2006 observed a prevalence of 69.5% among bankers in a district in India.^[20] In this study, hypertension was associated with mental stress.^[20] Job strain has also been similarly found to be significantly related to hypertension with a odds ratio of 1.18.^[20] Bank staff are under intense pressure of work with little time to care for their bodily needs. The objective of this study was to evaluate the level of awareness, prevalence and management of hypertension among bankers in Owerri.

METHODOLOGY

Study area

This study was carried out among commercial bank workers in Owerri urban, the capital of Imo state South Eastern Nigeria. Owerri has an estimated population of 400,000 and covers an area of approximately 40 square miles (100km²).^[21]

Owerri has eleven major commercial banks, each with average of three (3) branches.

Study population

The study population is made up of all the professional bank staff members.

Study sample

This is made up of all the professional bank workers in the selected banks' main branch and a branch of each of them. A minimum sample size was calculated based on a population (of bank workers) <10,000 with prevalence of hypertension of 17%^[9] from a previous study to arrive at 194.

Sampling technique

Seven banks (two thirds) were randomly selected by balloting from the eleven banks. One branch from each of the selected seven banks was randomly selected to add to the main branch of the

seven banks giving a total of fourteen branches that were studied. All the professional bank workers in the selected bank branches were then included in the study.

Inclusion/exclusion criteria

Only professional banking staff members were included in the study. Those who had less than one year experience at the bank were excluded from the study. Professional staff members that consented verbally were studied.

Study design

This was a cross-sectional descriptive survey. A pre-tested semi-structured questionnaire which assessed their knowledge of hypertension, risk factors, adherence to management as well as demographic attributes was self-administered to the respondents.

Knowledge of hypertension was based on a set of standard questions covering its definition, risk factors, treatment and complications. Responses were graded as very poor, poor, average, good or very good.

The blood pressure was measured (using a standardized Accoson® type pneumatic mercury sphygmomanometer); pulse, weight and height of the respondents were checked and recorded in mmHg, Kg and meters respectively.

Blood pressure measurement

Each respondent sat quietly for at least 5 minutes in a chair with their backs supported and their bare arms supported at heart level on a desk. It was ensured that coffee or smoking was not used 30minutes before the recording.

An appropriate sized cuff was used and measurements taken on the right arm to avoid falsely low readings in the range of 10 to 30 mm Hg usually due to an excessively large cuff use. The bell of the stethoscope was placed over the brachial artery pulse, about 2 cm above the cubital fossa. The cuff was inflated to 20mmHg above the palpated systolic blood pressure (SBP) and deflated at a rate of 2 to 3mmHg/second. The SBP and diastolic blood pressure (DBP) were recorded. The first sound heard (phase 1) taken as the SBP. The disappearance of sound (phase 5) was taken as the DBP among the subjects. Two (2) readings separated by 2 minutes were noted from each participant and the average recorded as the blood pressure.

Hypertension was defined as systolic blood pressure recording greater than 140mmHg or diastolic blood pressure greater than 90mmHg.^[19]

Body mass index (BMI)

The BMI was calculated by dividing the weight in kilograms (Kg) by the square of the height in meters (m²). BMI ≥ 30kg/m² was considered to be obese.

Ethical consideration

Ethical Clearance was obtained from Imo State University Teaching Hospital (IMSUTH), Ethical Committee. Verbal consent was also obtained from management and staff of the banks selected.

Limitation of the study

The findings from this study are not applicable to the general population as the bank workers are not representative of the various aspects of the population; in age, sex distribution, occupation, educational level, social status and location of residence.

Statistical analysis

Data collected was entered into a password protected computer and analyzed using SPSS 16.0. The data was analyzed and presented using frequency tables and odds ratio used to compare variables where necessary.

RESULTS

One hundred and ninety four bankers participated in the study. The demographic distribution of the study participants is presented in table 1.

Table 1: Demographic distribution of the respondents

Age (years)	Male [N (% males)]	Females [N (% females)]	Total [N (% total)]
20 – 30	47 (47)	58 (61.7)	105 (54.1)
31 – 40	29 (29)	30 (31.9)	59 (30.4)
41 – 50	19 (19)	5 (5.5)	24 (12.4)
51 – 60	5 (5)	1 (1.1)	6 (3.1)
Total	100 (51.5%)	94 (48.5%)	

More than half (54.1%) of the respondents are aged between 20 and 30 years and there were no respondents above the age of 60 years. Males slightly outnumber the females (100 vs 94). All respondents had at least tertiary level of education while 10 (5.2%) respondents in addition had a postgraduate educational qualification.

Most respondents have a good and very good knowledge of the definition of hypertension (47.9% and 50% respectively); 51% (99) and 29.4% (57) had very poor and poor knowledge of the risk factors of hypertension respectively, while 86.6% (118) had a poor knowledge of its treatment modality; 59.3% (115) had poor knowledge of its complications.

Majority of the respondents, 157 (82.2%) had a good attitude towards regular blood pressure measurement, 29 (15.2%) were indifferent towards regular blood pressure measurement, while a poor attitude was observed in only 5 (2.6%) of the respondents.

Prevalence of hypertension

The occurrence of hypertension among the study population is shown in table 3.

The proportion of all respondents with hypertension

was 12.4%. The highest number of respondents with hypertension was in the 41-50 year age group, 9 (4.7%). Of the 24 who are hypertensive, 19 (79.2%) are males; the odds of a male banker being hypertensive compared to a female is significantly high at 4.2 (95% CI 1.5 – 11.7) (*P*-value 0.006).

However, the proportion of those who are hypertensive increased with age with 5 being males among 51-60 year old respondents. The 51-60 year age group had the highest proportion, 6 (83.3%) compared to the respondents in the 20-30 year age group – 3 (2.9%).

Of the 19 respondents who had previously been diagnosed hypertensive and were on drug treatment, 13 (68.4%) had good blood pressure control, while 6 (31.6%) had poor blood pressure control. Also, only 6 (31.6%) of the 19 previously diagnosed hypertensive strictly adhered to their prescribed medications.

Observed risk factors among the hypertensive bankers include; alcohol consumption in 12 (50%), obesity (BMI $\geq 30\text{kg/m}^2$) in 9 (37.5%) and smoking in 2 (8.3%) while 1(4.2%) had no attributable risk factor. All those who consumed alcohol and smoked were male.

Table 2: Knowledge of the respondents about the definition, risk factors, treatment and complications of hypertension

Grade	Very poor N. (%)	Poor N. (%)	Average N. (%)	Good N. (%)	Very good N. (%)
Definition hypertension	--	--	4 (2.1%)	93 (47.9%)	97 (50%)
Risk factors	99 (51%)	57 (29.4%)	21 (10.8%)	12 (6.2%)	5 (2.6%)
Treatment	--	168 (86.6%)	18 (9.3%)	8 (4.1%)	--
Complications	--	115 (59.3%)	42 (21.7%)	35 (18%)	2 (1%)

Table 3: Sex distribution of hypertension among respondents

Age group (years)	Previously diagnosed Male/Female	Previously undiagnosed Male/Female	Total N (%)	Proportion in each age group
20 – 30	1 / 2	-- / --	3 (1.5)	3/105 (2.9%)
31 - 40	4 / 1	2 / --	7 (3.6)	7/59 (11.9%)
41 - 50	4 / 2	3 / --	9 (4.7)	9/24 (37.5%)
51 - 60	5 / --	-- / --	5 (2.6)	5/6 (83.3%)
Total	14 / 5	5 / 0	24 (12.4)	
%	54.2 / 20.8 (=75)	25 / 0		

Table 4: Other risk factors for cardiovascular disease among hypertensive respondents

Risk factors	Male	Female	Total N (%)
Alcohol	12	-	12 (50%)
Smoking	2	-	2 (8.3%)
Obesity	5	4	9 (37.5%)
None	-	1	1 (4.2%)
Total	19	5	24

DISCUSSION

Hypertension is prevalent among Nigerians and associated with high level of morbidity and mortality^[2] and bank workers are not exempted from it. Their job specification can be stressful and can be associated with elevated blood pressure.^[9-12,20]

A total of 194 bank workers were studied with slightly more males (51.5%) compared to the females (48.5%). More than half the number of workers studied, 105 (54.1%), were less than 30 years of age suggesting that most bank workers are in their third decade of life when they are most suited to withstand the associated stress. Only 6 (3.1%) were aged between 51 to 60 years. Nobody aged above 60 years was studied because of the retirement age of working Nigerians being 60 years.

All the bank workers had an average to very good knowledge of what hypertension is. This is similar to the observation among bank workers in Benin City and Sokoto, both in Nigeria.^[9,11] The tertiary level education of all the bank workers offers them a high intellectual capacity and makes them knowledgeable. Also Owerri is an urban city with increased exposure to sources and exchange of information by people, advancement in science and technology and easy access to information via mass media and the internet. On the contrary, the bank workers had a poor knowledge of the risks associated with hypertension and cardiovascular diseases, its treatment modalities and hypertension related complications. This is similar to the study in Sokoto which documented poor awareness of the risks associated with coronary artery disease among bank workers.^[11] However, in Ilorin, more than half the bank workers had a good knowledge of the associated risk factors for hypertension.^[10] This may result from the higher prevalence of hypertension among bank workers in Ilorin and a resultant impact of local health education, since most bankers are expected to have a similar educational level.

The bank workers generally showed good attitude (with 132 or 69.1% of the respondents) towards the prevention and control of hypertension. This may be attributable to the fact that the job specification is demanding and competitive, ensuring that most bankers are willing to remain healthy most times to retain their jobs. Also, they are required to embark on an annual checkup to assess their fitness level for the job.

Of the hypertensive bank workers, 19 (75%) are aware of their diagnosis (diagnosed cases) while 5 (25%) were previously undiagnosed. This is in keeping with the MONICA project which demonstrated an increase in the awareness among hypertensive subjects in a study population as demonstrated in the USA where slightly more than half of the hypertensive patients are aware of their diagnosis.^[22]

The prevalence of hypertension in our study was 12.4%. This is closer to the lower end of the range of proportions of various hypertension prevalence studies across Nigeria.^[2] Also our observed prevalence was less than that observed among bankers with a similar sample population size in Benin City (17.7%), Sokoto (22.9%) and Ilorin (34.4%).^[9-11] The low prevalence observed may be due to majority of the bank workers being below 40 years of age.

We observed a rising prevalence of hypertension with age and this is in keeping with local and worldwide observations.^[2-7,19] Also the prevalence was higher among the male bank workers (79.2%) compared to the females. This correlates with other studies conducted in Ibadan, Nsukka, Enugu and South South region of Nigeria.^[4-8]

Management of hypertension among previously diagnosed hypertensive bank workers was observed to be good in 13 (68.4%). This is high when compared to the low level of B.P control (21.21%) documented in a Nigerian population.^[5]

The high level of good BP control we observed may be due to the good attitude the bank workers have towards their BP check and control. They were also enlightened and financially stable and thus appreciated the need to manage their BP better than most people in the entire population. However, adherence to treatment was poor with only 6 (31.6%) of them strictly keeping to prescribed medications. This is low when compared with the observation in Umuahia where an adherence rate to antihypertensive medication was 42.9%. This may largely be due to forgetfulness from the busy work schedule.^[23] Other lifestyle modifications thought to be effective in management of hypertension such as exercise, salt restriction, and weight reduction observed to be low among the general population in eastern Nigeria^[24] is unlikely to be unknown to the bank workers in keeping with their knowledge on hypertension.

Other risk factors of cardiovascular disease found among the bank workers in this study were alcohol consumption, obesity and smoking. Alcohol consumption rates observed among the bankers are similarly high among the general population in eastern Nigeria as observed by Chukwuonye *et al.*^[16] However, among bank workers in Sokoto, none took alcohol perhaps due to religious injunctions but smoking rates were similar.^[11]

CONCLUSION

The bank workers in Owerri have a good knowledge of what hypertension is but not its complications and treatment. The prevalence of hypertension among bankers is 12.4%, with only three-quarters being aware of their diagnosis. Alcohol intake and Obesity were the commonest other risk factors of cardiovascular disease observed. Management was good in majority of hypertensive bankers but strict adherence to treatment was low.

RECOMMENDATION

Continuous health education on chronic non-communicable diseases such as hypertension is advocated while regular annual medical check-up should continue to be encouraged for those who are not diagnosed hypertensive. While the hypertensive bankers must adhere to prescribed medications as well as engage in life-style adjustments where necessary to avoid the risk of developing hypertension related complications.

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