

AWARENESS OF HYPERTENSION AND ITS RISK FACTORS IN MAIDUGURI, NORTH EASTERN NIGERIA

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ABSTRACT

Objectives: To determine the level of awareness of hypertension and its risk factors in Gwange community of Maiduguri North-eastern Nigeria.

Method: A community based cross sectional study in Gwange community of Maiduguri, a major city in North-eastern Nigeria. Participants were selected through a stratified randomize sample method. Demographic data including age, gender, marital status, highest educational qualification and occupation were recorded. Information on awareness of hypertension and level of awareness of risk factors for hypertension were also obtained. Blood pressure was taken once on the left arm using a standard mercury sphygmomanometer.

Results: In all, 485(175 females) were included. The study showed a statistically significant higher level of awareness among young individuals with declining trend with aged ($p=0.01$). The study also recorded a statistically significant difference in the level of awareness of hypertension among individuals with different educational levels attained, with secondary and tertiary levels of education having higher awareness ($p=0.00$) and also a statistically significant difference in the awareness of hypertension among different occupational groups, with higher awareness among artisans and professionals. ($p=0.00$). The study found 13 (6.5%) hypertensives among 199 individuals who are not aware of the risk factors for hypertension, 38 (21.6%) hypertensives among 176 individuals who are aware of one risk factor for hypertension, 12 (23.5%) hypertensives among 51 individuals who are aware of two risk factors for hypertension, and 11 (26.8%) hypertensives among 41 individuals who are aware of three or more risk factors for hypertension.

Conclusion: Awareness of hypertension among hypertensives is higher than in normotensives with statistically significant higher awareness of its risk factors. Awareness is also found to be higher among people of young age group, secondary and tertiary levels of education and also among artisans and professional. Special attention should be given to those leaving in remote villages and those least aware or treated in view of the consequences of hypertension on multiple organs and regular blood pressure check should be recommended to all individuals at risk.

Keywords: Hypertension, Awareness, Maiduguri

INTRODUCTION

Hypertension is a major public health problem in black populations' worldwide.¹⁻³ As infection and malnutrition are being overcome in many developing countries, cardiovascular disease is

emerging as an important cause of morbidity and mortality.^{4,7} Epidemiological studies in African populations would continue to assist in the assessment of the magnitude of

hypertension in the various populations. They also have the potential of providing better understanding of the aetiology and pathogenesis of hypertension in view of the heterogeneous pattern in the distribution of some of the population groups.⁶ There is evidence in favour of lifestyle changes playing a crucial role in the development of hypertension.^{3,8-10} Of note is the very high prevalence rate of hypertension among African Americans who share common genetic ancestry with these populations.³ In many African populations there has been a rapid increase in urbanization in the last three or four decades, largely because of socio-economic and political changes, with consequent change in disease pattern.^{7,10,11} Prevalence of hypertension in Nigeria, the largest Black nation, ranged from rates of 8-10% in the rural setting to 10-12% in urban populations.^{7,12} An analysis of the 1991 national census¹³ showed that 36% of Nigerians lived in urban communities compared to 10.7% in 1953 and 19.3% in 1963. Obesity, especially regional fat distribution, is a known risk factor for hypertension (14-16). There are published reports on the effects of generalized obesity defined by body mass index (BMI), some other anthropometric or biological variables and social factors on risk of high blood pressure among Nigerians^{9,15,17-22} and other African black populations.^{5,7,10,23,24}

MATERIALS AND METHOD

Study Area: Maiduguri, the capital city of Borno State, is the largest city in north eastern Nigeria and has an estimated population of about 1.4 million people.²⁵ It lies between latitude 11.845°N and longitude 13.16°E in the Sahel Savannah.²⁵ Maiduguri is a cosmopolitan town with Kanuri, Babur-Bura, Shuwa-Arab, Marghi and Hausa as the major ethnic groups. In addition, there are settlers from other Nigerian States and neighbouring countries of Cameroun, Niger, and Chad Republic.

Study Design/Population: A stratified random sample of the inhabitants of Gwange ward Maiduguri was used. They are somewhat representative of general population in the entire town.

Data collection: The screening was conducted by trained medical personnel. All participants were subjected to a face-face interview during which data were collected (using standardized questionnaires) details such as name, age, and sex marital status were recorded. The highest educational status attained by each subject was recorded and interpreted as primary, secondary, tertiary or non formal. The socioeconomic status of each subject was determined by job grade as either non skilled, artisan, semiskilled or professional. Information on awareness of hypertension and level of awareness of risk factors for hypertension were obtained using a questionnaire and categorised as those who are not aware of any risk factors, those who are aware of only one risk factor, those who are aware of only two risk factors, and those who are aware of three or more risk factors. The risk factors considered are emotional stress, salt intake, obesity, oral contraceptive pills, steroids, dietary cholesterol, aging, heredity, alcohol, impaired glucose tolerance/diabetes mellitus, pregnancy, and renal failure. Blood pressure was taken once on the left arm using a standard mercury sphygmomanometer. It was measured using standard procedure.

RESULTS

This study stratified 485 individuals of age ranged 15-74 years comprising of 310 males and 175 females with a mean and standard deviation 41.25±13.63 years. Awareness of hypertension is more among young individuals with awareness rate of 100% among individuals aged 10-19 years, 99.1% among those aged 20-29 years and 99% among those aged 30-39 years. These showed

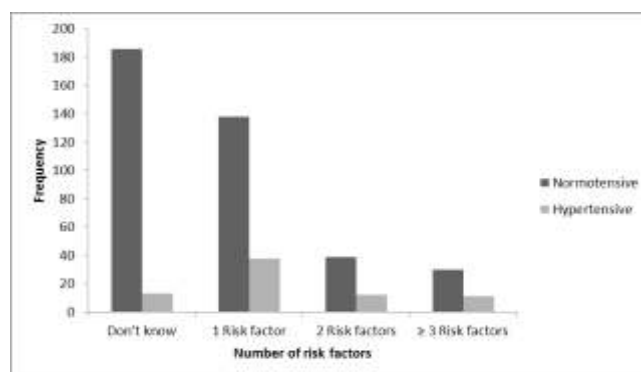
declining trend with the least (80%) among those aged 70-79 years. (Table 1). Three hundred (96.8%) of the males are aware of hypertension as opposed to 167 (95.4%) females. The awareness is insignificantly high among males p value = 0.45 (Table 1). We studied the relationship between marital status and awareness of hypertension. There was no statistically significant difference in the awareness of hypertension among the single (98.8%), married (94.4%), divorced (100%) and widowed (100%) as illustrated in Table 1 (p value = 0.08). Table 1 illustrated the status of awareness of hypertension among individuals with varying levels of education attained, it revealed significant statistical difference in awareness of hypertension with secondary and tertiary levels having higher awareness (100% and 99.3% respectively) while non formal and primary levels having lower awareness (85.9% and 85% respectively). Similarly, Table 1 illustrated the status of awareness of hypertension among individuals with different occupation status, it showed a significant statistical difference in the awareness of hypertension among the group with artisans and professional having higher awareness (100% and 99.4% respectively) while semiskilled and non skilled having lower (99.1% and 88.6% respectively). Among 18 individuals that are not aware of hypertension we detected one (5.6%) hypertensive upon blood pressure check while among 467 individuals that are aware of hypertension we found 74 (15.8%) to be hypertensive upon blood pressure check (Table 1). There is no significant statistical difference in the prevalence of hypertension among individuals who are aware of hypertension and those who are not aware of hypertension. The study found 13 (6.5%) hypertensives.

Table 1: Characteristics of the Study Group

Characteristics	Number and percentage (%) of study group		p value
	Not aware	Aware	
Age group			
10-19	0 (0)	5 (100)	0.01?
20-29	1 (1)	112 (99)	
30-39	1 (1)	99 (99)	
40-49	3 (3)	112 (97)	
50-59	8 (8)	94 (92)	
60-69	2 (6)	33 (94)	
70-79	3 (20)	12 (80)	
Gender			
Male	10 (3)	300 (97)	0.45
Female	8 (5)	167 (95)	
Marital status			
Single	2 (1)	160 (99)	0.08
Married	16 (6)	272 (94)	
Divorced	0 (0)	16 (100)	
Widowed	0 (0)	19 (100)	
Education			
Primary	6 (15)	34 (85)	0.00?
Secondary	0 (0)	85 (100)	
Tertiary	2 (1)	268 (99)	
Informal	10 (11)	80 (89)	
Occupation			
Non-skilled	16 (11)	124 (89)	0.00?
Artisans	0 (0)	60 (100)	
Semiskilled	1 (1)	109 (99)	
Professionals	1 (1)	174 (99)	
Awareness of hypertension			
Normotensives	17 (94)	393 (84)	0.20
Hypertensive	1 (6)	74 (16)	

p value < 0.05

Figure 1: Awareness of risk factors for hypertension among hypertensive and normotensives subjects



Among 199 individuals who are not aware of the risk factors for hypertension, 38 (21.6%) hypertensives among 176 individuals who are aware of one risk factor for hypertension, 12 (23.5%) hypertensives among 51 individuals who are aware of two risk factors for hypertension, and 11 (26.8%) hypertensives among 41 individuals who are aware of three or more risk factors for hypertension. Figure 1 depicted the awareness of risk factor for

hypertension among hypertensives and normotensives subject. It can be deduced that the prevalence of hypertension increased as awareness of risk factors for hypertension increases.

DISCUSSION

This study carried out in Gwange ward of Maiduguri Metropolis Nigeria of adults aged 15 years and above revealed that the general public in Maiduguri has high awareness of Hypertension. The high awareness could be explained by the fact that the ward is located within Maiduguri town where there are many health facility including the University of Maiduguri Teaching Hospital, and awareness of hypertension largely depends on the capacity of the capacity of the health system to provide diagnostic services for hypertension to the general population.^{26, 27} Those who were found to be hypertensive tend to be more aware of the condition. This goes to suggest that most of them have visited the health facility where blood pressure measurement is part of the routine clinic vitals. In general, however, low awareness of hypertension has been reported as a global phenomenon,²⁸ Unlike in other studies which showed much better awareness among women compared to men^{26,27} This study reported an awareness that is insignificantly high among males than females 96.8% and 95.4% respectively (p value 0.45) table 1. Moreover those found to be hypertensive equally have statistically high awareness of the risk factors for hypertension when compared with those not hypertensive. However hypertension is largely asymptomatic and in order to increase awareness, there is need to screen all adults at an appropriate opportunity when they get in contact with a health system. There is also higher awareness among those who had secondary and tertiary education and also higher among artisans and professionals than other occupational groups. Special attention should be given to those living in remote villages and those least aware or treated. Such programs can include

interventions to improve the knowledge, attitude, and behaviors of all sectors of the community including patients and health professionals in the context of prevention, early diagnosis, of hypertension.

Limitations

The present study has some limitations. Participants selected were from within the Maiduguri metropolis, in Gwange an area less than a kilometer away from the Teaching Hospital (biggest health facility in Maiduguri) and may therefore differ from the overall population of the state, by being more health conscious. Nocturnal variations and white-coat effect were not ascertained as no home monitoring of BP measurements was available.

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