

RESEARCH NOTE

THE INCIDENCE OF HYPERTENSION AMONG A SELECT POPULATION OF ADULTS IN THE NIGER DELTA REGION OF NIGERIA

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Abstract. The incidence of hypertension was studied in two hundred male and female subjects engaged in low socioeconomic class occupations in a university village of the Niger Delta region of Nigeria. The mean age of the male subjects was 23 years and that of the female subjects was 25 years. The mean body mass index (BMI) for the male subjects was 22.7 kg/m² and that of the females was 23.8 kg/m². The mean systolic blood pressure of the male subjects was 136.8 mmHg and that of the females was 122 mmHg. The mean diastolic blood pressures for the male and female subjects were 81 and 83.4 mmHg, respectively. The incidence of hypertension among the male subjects was 16% and that of the female subjects was 12%.

INTRODUCTION

Cardiovascular disease is responsible for about 23,800 deaths annually in the United Kingdom. This accounts for 39% of total mortality there (Anonymous, 2000).

Hypertension is common worldwide and it is regarded as a major public health problem (Murray and Lopez, 1997; Wolf-Maier *et al*, 2003). It is the most common cardiovascular disease in black Africans and a major cause of morbidity and mortality among Nigerians (Balogun and Ladipo, 1988; Lawal and Falase, 1988; Cooper and Rotimi, 1993).

In blacks, hypertension prevalence studies show 24% in St Lucia, 26.9% in Jamaica and 27.9% in Barbados (Freeman *et al*, 1996). In American whites, it is 28% (24-74 years old) (NCHS, 2003). Prevalence studies in Ghana

show 5% for rural dwellers and 13% for urban dwellers. Another study carried out among the Ashantis in Ghana living in semi-urban and rural villages found a prevalence of 28.7%.

While some studies have been carried out in some parts of Nigeria (Akinkugbe and Ojo, 1968; Nwankwo *et al*, 1990; Akinkugbe, 1996; Kaufman *et al*, 1999), reports on the incidence of hypertension in adults living in the Niger Delta region are almost non-existent. This study was carried out to evaluate the incidence of hypertension in this part of the world.

MATERIALS AND METHODS

The study population consisted of two hundred adults. They were from a low socioeconomic class. The male study group was drawn from commercial motorcyclists plying the university suburb while the female subjects were drawn from two markets in the village where the university is located. A random sampling method was used to select the subjects. The university is located 22 km from Port

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At the onset of the study, the subjects were asked their age. Weights and heights were measured using a weighing scale (Seca, Germany). The balance has a graduated meter rule which was used to measure height. The weight was measured to the nearest 0.5 kg with the subjects wearing light clothing and their shoes removed. The height was measured without shoes. Body mass index was calculated as weight in kilograms divided by height in meter squared.

Blood pressure (BP) and pulse rate were measured after the subject had been sitting upright for at least 5 minutes with an automatic sphygmomanometer (Omron Hem-412C, Omron, USA). Hypertension was defined as a systolic BP \geq 140 mmHg and/or a diastolic blood BP \geq 90 mmHg or being on drug therapy for hypertension.

Statistics

The statistical package used for analyzing the data was SPSS. Means and standard deviations were obtained from the results of the analysis. The Student's *t*-test was used as a test of difference for the two studies.

RESULTS

The age range of the motorcycle drivers was 16 to 56 years. The mean age was 23.13 years, the mean body mass index was 22.71 kg/m² while the range was 22 to 28 kg/m².

The mean systolic blood pressure was 136 mmHg while the range was 87-177 mmHg. The mean diastolic blood pressure was 81 mmHg while the range was 51 to 121 mmHg. The mean pulse rate of the motorcycle drivers was 68 beats/minute while the range was 54-99 beats/minute.

For the market women, the mean age was 25 years while the age range was 16-54 years. The mean BMI was 23 kg/m². The range was 14.8 to 36.0 kg/m². The mean systolic BP was 122 mmHg with a range of 87-169 mmHg.

The mean diastolic BP was 83.4 mmHg while the range was 52-111 mmHg. The mean pulse rate of the women was 77 beats/minute. The range for the pulse was 40-123 beats/minute. The incidence of hypertension among the motor cycle drivers was 16% while that of the market women was 12%.

DISCUSSION

The prevalence found in this study is below that found in St Lucia, Barbados and Jamaica, where the prevalences of hypertension were 24.7, 26.9 and 29.9%, respectively. It is also lower than that found in blacks in the United States where 33.6% is reported (Cooper and Rotimi, 1997). Cappuccio *et al* (2004) reported the prevalence of hypertension of 28% for the Ashanti tribe in Ghana.

The prevalences of hypertension obtained in our study are similar to those found in Cameroon (14.5% in females, 16.9% in males) (Coopers *et al*, 1998). Prevalences of 8-13% were reported by Pobee (1993) for Ghana. The incidence of hypertension obtained in our study was higher for men than women. This agrees with the findings of Cappuccio *et al* (2004) and Cooper *et al* (1997).

The results obtained for the mean systolic and diastolic blood pressures in our study are similar to those reported for Nigeria by Cooper *et al* (1997) who reported a mean systolic BP of 121 mmHg and a mean diastolic BP of 73 mmHg for men. In women, the mean systolic BP was 119 mmHg and the mean diastolic pressure was 72 mmHg.

There is a need for more studies in the Niger Delta region using a larger sample size. It is important to have a clearer view of the prevalence of hypertension among the different categories of people in this region.

The level of hypertension found in this study, although not too great, is still a public health problem. The participants in this study did not know they had hypertension. There is

a need for the Nigerian government to have hypertension on its health agenda. There need to be guidelines for the detection and management of hypertension. Other measures, such as reduction in salt intake (Cappuccio, 2000; Cappuccio *et al*, 2000; Adeyemo *et al*, 2002) which are currently recommended by the World Health Organization (2002) should also be promoted, while low cost drug treatment should be implemented. This study indicates that hypertension is not uncommon in the Niger Delta region among people of low socioeconomic class.

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