Association between Anthropometry and Blood Pressure among Female Ghanaian Teachers of Child bearing Age

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ABSTRACT

Prevalence of hypertension is becoming very high among women in Ghana due to the high prevalence of obesity. This study sought to determine the relationship between anthropometry and blood pressure among female teachers of child-bearing age. A cross-sectional survey was conducted on 400 female teachers between the ages of 18-49 years. A structured questionnaire was used to gather information on the socioeconomic status, anthropometry, blood pressure levels, physical activity, alcohol and nutrient intakes. Correlation, chi-square test, linear regression models and other multivariate statistical analyses were used to determine the association between the variables and blood pressure. The prevalence of hypertension among the female teachers was found to be 11.5%. Of this, teachers above 35 years had the highest prevalence of 88.9%. With respect to body mass index, obese individuals had the highest prevalence of 41.3%. Parity, income level and beer intake showed significant association with high blood pressure. Waist-to-hip ratio and age of the female teachers appeared to be the greatest predictors of hypertension. Centrally obesed women were 2 times at risk of developing hypertension than those who were not. Female who knew their hypertension status were 6 times more likely to be detected as hypertensive and women above 35 years were 5.7 times at risk of developing hypertension than those below 35 years. It is concluded that there is a strong positive relationship between anthropometry and blood pressure. Measures must be put in place to intensify nutrition education in all institutions.

Keywords: Anthropometry, Blood pressure, Female Teachers, Childbearing age

INTRODUCTION

Knowledge of the hypertensive status of a woman within the child-bearing age is very important to control the risk involved. Aside the complications of stroke and other cardiovascular diseases, hypertension may lead to pre-eclampsia or eclampsia during pregnancy which may eventually cause maternal mortality, prenatal deaths and even low-birth weight infants (Lloyd-Jones *et al.*, 2005). The focus of this study is on female teachers because they contribute a homogeneous group of people as defined by their work schedule and the kind of pressures they undergo. As females they are vulnerable due to the complex nature of their physiology. A combination of the pressure from work and the complex nature of their physiology may predispose them to hypertension.

OBJECTIVE: The objective of this study was therefore to establish the association between anthropometry and blood pressure among female teachers of child bearing age in Accra District.

MATERIALS AND METHODS

Material and Methods

Study Design and Study Population: A cross sectional study was conducted on female teachers in basic public schools in Ghana. In all a total of 58 schools were involved in the study. Non-pregnant female teachers between the ages of 15-49 years who taught in the selected schools and consented to be part of the study were recruited.

Sample Size: A total of 400 female teachers were recruited for this study.

Data Collection: A structured questionnaire was used to collect information on socioeconomic status, anthropometry, blood pressure levels, physical activity and dietary intakes (using a 24-hour recall and food frequency tables).

Data Analysis: Data analysis was done using Epi-info version 6.02 (CDC/WHO, 2001) while the ESHA food processor version 6.02 (Davison *et al.*, 1994) was used to convert dietary intake into nutrients.

RESULTS AND DISCUSSION

Fig. 1. Socio-Economic Status of Respondent

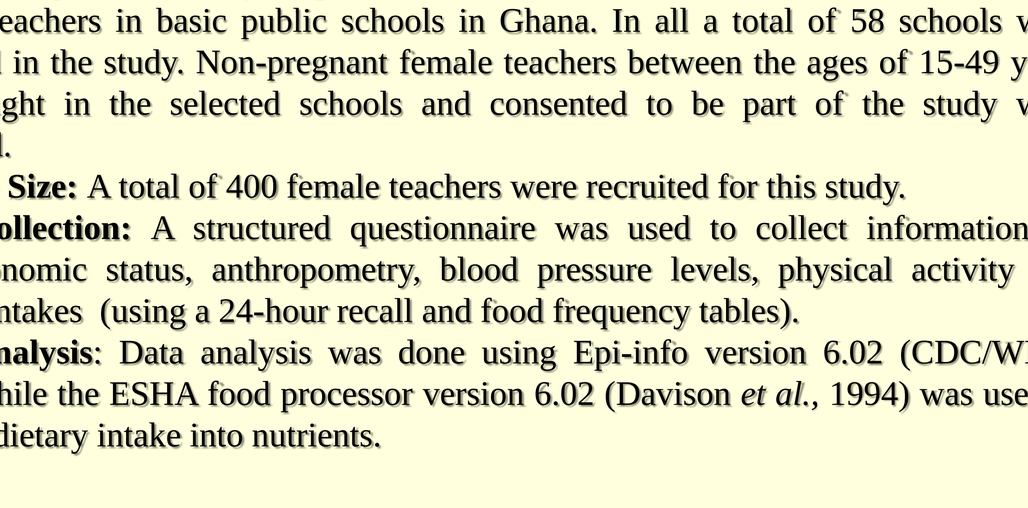

Fig. 2. Body Mass Index (kg/m²)

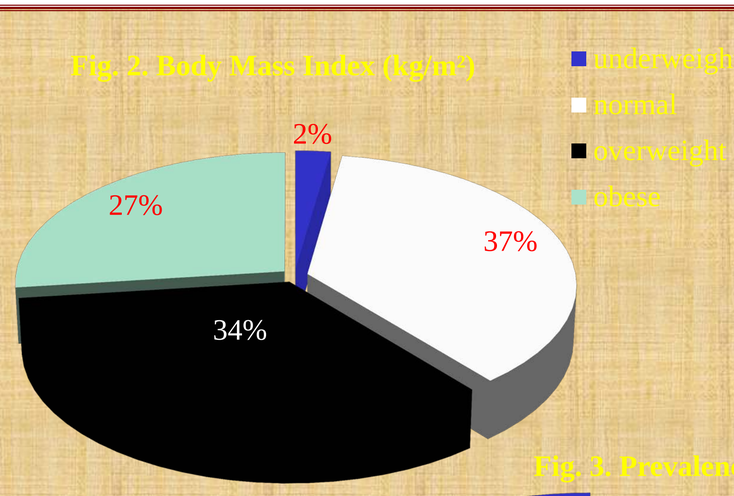

Fig. 3. Prevalence of Hypertension among Respondent

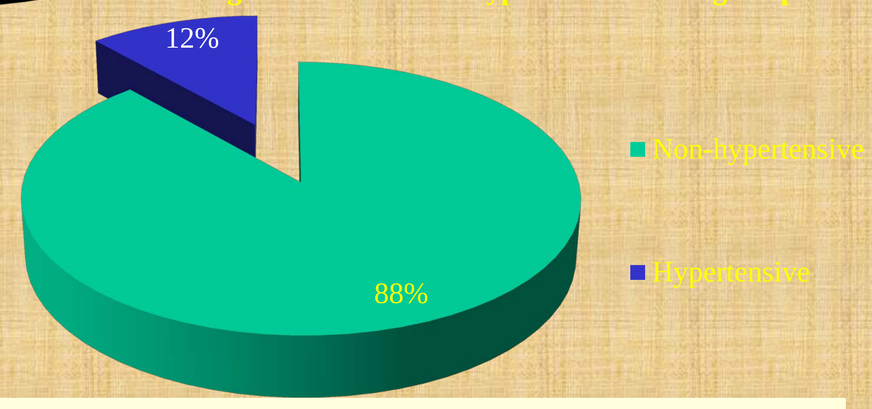

Fig. 4. Hypertensive status based on Age and Anthropometry

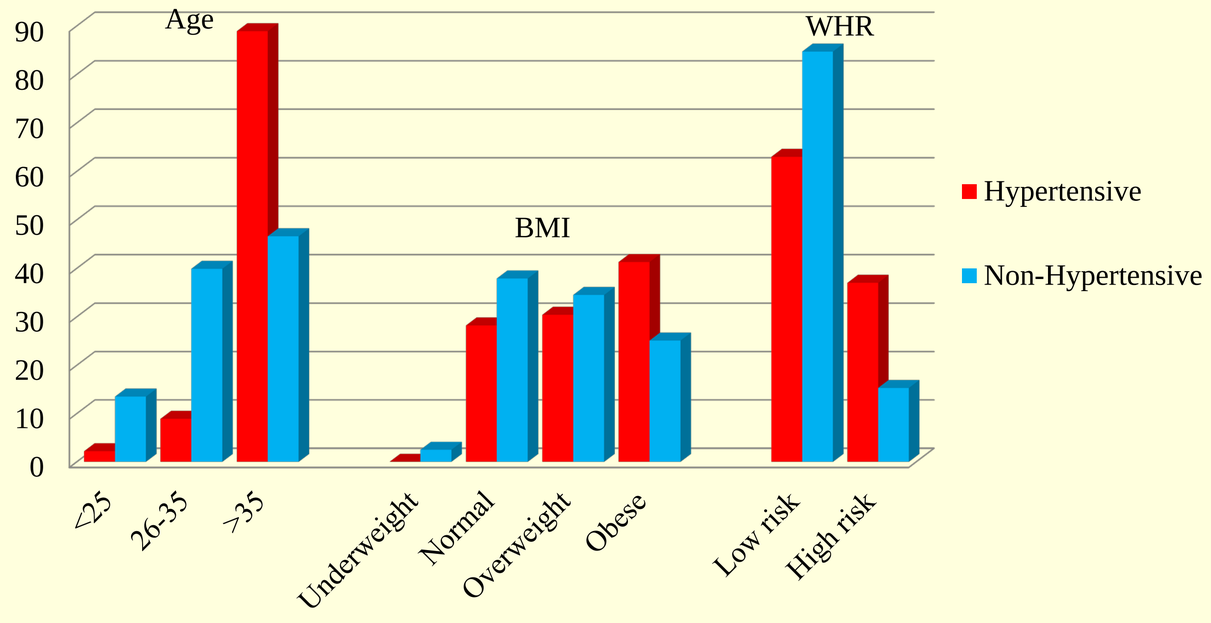

Table 1: Binary Logistic Models showing Associated variables with High Blood Pressure.

Variables	Odds ratio (95% C. I)	R^2
Waist-to-hip ratio		0.116
≤ 0.85	1	
>0.85	2.12 (0.99-4.51)	
Age		
<35 years	1	
>35years	5.68 (2.10-15.38)	
Hypertensive Status		
[1]Not Hypertensive	1	
[2]Known Hypertensive	6.11(2.37-15.78)	

CONCLUSION

There is a strong positive relation between anthropometry and blood pressure. Central obesity, age and hypertensive status are the greatest predictors of hypertension among female teachers in Ghana.

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