

Relationship between Anthropometric Indicators and Blood Pressure Levels among Adults in Jaffna District

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Cardiovascular diseases are becoming more common in Jaffna population. Hypertension is a risk factor for cardiovascular diseases. The evaluation of the relationship between blood pressure and anthropometric measurements is important to evaluate the health among adults. The aims of this study were to determine the relationship between anthropometric measures and blood pressure and to identify the risk factor of blood pressure based on the gender, age, religion, and sector. This was a community based cross sectional descriptive study among adults (above 18 years). A multi stage stratified cluster sampling was used to obtain a sample that represents the adult population of the district of Jaffna by geographical area. Anthropometric measurements and Blood Pressure (BP) were measured based on standard methods. Ethical clearance was obtained from the Ethical Review Committee, Faculty of Medicine, University of Jaffna. Written consent was obtained from each participant. Age was considered as a group categorical variable and those categories were 18-34, 35-49, 50-64 and ≥ 65 years. The subjects were classified according to WHO classification of Body Mass Index (BMI) for Asians (2006). Central adiposity was determined as Waist Circumference (WC) ≥ 90 cm for men and ≥ 80 cm for women, and Waist-Hip Ratio (WHR) of ≥ 0.90 in men and ≥ 0.85 in women (WHO, 2002). Raised BP was considered according to International Diabetic Federation criteria (2006). Data entry and statistical analysis were done using the SPSS Version 16 statistical package. The probability level was set as $P < 0.05$. Subjects who are under weight (odds= 0.146, 95% CI: 0.056; 0.383), normal weight (odds= 0.243, 95% CI: 0.106; 0.558) and overweight (odds= 0.36, 95% CI: 0.151; 0.859) had less risk of developing hypertension comparing with the obese subjects. Subjects who do not have central adiposity were less likely to develop hypertension compare to the subjects who have central adiposity (odds= 0.458, 95% CI: 0.303; 0.693). Subjects who have normal WHR were less risk of getting hypertension compare to the subjects who have higher WHR (odds= 0.642, 95% CI: 0.447; 0.922). People living in the rural area had 0.84 times less likely to develop hypertension compare with people living in the urban sector (95%CI: 0.525; 1.345). But the association was not significant at 95% confidence interval level. Males were 1.824 times likely to develop hypertension than that of the females (95% CI: 1.189; 2.797). Subjects who are in categories of 18-34 years (odds= 0.067, 95% CI: 0.029; 0.154) and 35-49 years (odds= 0.225, 95% CI: 112; 0.450) were less likely to develop hypertension than that of the age category of ≥ 65 years. People who follow Hinduism had 0.019 times less likely to develop hypertension compare with people who follow Christian/ Roman Catholic (95%CI: 0.309; 0.9). Obese subjects have risk of developing hypertension. Subjects having central adiposity and high WHR have high risk of developing hypertension. Males are more likely to develop hypertension than that of the females. Aged subjects have a risk for developing hypertension. People who follow Hinduism are less likely to develop hypertension compare to people who follow Christian/ Roman Catholic.

Keywords: Body Mass Index, Waist-Hip Ratio, Central adiposity, Systolic blood pressure, Diastolic blood pressure