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The Relationship between the Anthropometric Indices and Hypertension in Elderly Population at Elderly Homes in the Medical Officer of Health Area of Piliyandala in Sri Lanka

SA Goonesekera[1#], TVKH Samoda[1], MDH Sankalpa[1], and GAD Perera[1]

[1]Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

[#]shanigoonesekera@gmail.com

Abstract

In Sri Lanka, the prevalence of hypertension has increased with age in adults. Obesity can be explained by different anthropometric indices. The objective of the study was to investigate the relationship between anthropometric indices of obesity with hypertension in elderly population at elderly homes in the Medical Officer of Health (MOH) area of Piliyandala in Sri Lanka. In this descriptive cross-sectional study, a total of 199 adults aged 65 years and above were interviewed. Anthropometric indices such as Body Mass Index (BMI), Waist Circumference (WC), Hip Circumference (HP), Waist Hip Ratio (WHR), Waist Height Ratio (WHtR), Body Roundness Index (BRI), a Body Shape Index (ABSI) and blood pressure were monitored from each participant by using standard methods. New hypertensive cases were identified when the average of two resting seated BP readings, separated by 5 min was SBP of $\geq$ 150 mmHg and a DBP of $\geq$ 90 mmHg, 64.32% were hypertensive, 35.68% were non hypertensive. The results indicated a significant positive relationship between Systolic Blood Pressure (SBP) and various anthropometric obesity indices, including WC, WHR and BRI. The Pearson correlation value is 0.134 between SBP and WC, 0.133 between SBP and WHR, 0.808 between SBP and a BRI. This study revealed nearly two-thirds of the population was hypertensive and females being more affected than males. The results showed a substantial positive correlation between hypertension and anthropometric obesity indices, including BMI, WC, WHR, WHtR, BRI, and ABSI. Furthermore, WC, WHR, and ABSI were the ideal obesity indices to correlate with hypertension.

Keywords: *Obesity, Hypertension, Elderly homes, BMI, WC, WHtR*