

To the Editors:

## Study on Body Mass Index, waist circumference and waist to height ratio of nursing officers working at Teaching Hospital, Jaffna

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Body Mass Index (BMI), waist circumference and waist-to-height ratio are simple tools to assess obesity, and obesity related, metabolic and cardio vascular disease risk status [1]. The aim of this study was to find the prevalence of overweight and obesity among the nursing officers working at Teaching Hospital, Jaffna. As the Teaching Hospital, Jaffna has 1500 nursing officer cadres and only 396 cadres are filled, it was expected that the working environment and pattern of duty may interfere with their regular eating habits, sleeping pattern and physical exercise and lead to alteration in BMI, waist circumference and waist-to-height ratio of the nursing officers. An institutional based cross-sectional descriptive study was carried out during February 2013. Ethics approval was obtained from the Ethical Review Committee of the Faculty of Medicine, University of Jaffna. Body weight was measured using an electronic weighing scale (Seca), height was measured using a stadiometer (Seca) and waist circumference was measured using a non-stretchable measuring tape following standard procedure [2, 3]. BMI was classified as underweight, normal weight, overweight, obesity class I, obesity class II and obesity class III [4]. Participants with waist circumference > 90.0 cm in males or 80.0 cm in females were considered to have

central obesity [3]. Waist-to-height ratio value above 0.5 is an indicator of 'early health risks' associated with central obesity [3]. The Teaching Hospital, Jaffna has 130 (32.8%) male and 266 (67.2%) female nursing officers and out of them 118 (34.5%) males and 224 (65.5%) females responded. The mean body weight of males was 69.3 ( $\pm$ 11.8) kg and 58.6 ( $\pm$ 10.8) kg in females. The mean BMI of males was 24.1 ( $\pm$ 3.5) and in females 24.1 ( $\pm$ 4.3) kgm<sup>-2</sup>. Among the male nursing officers, 6 (5.1%) were underweight, 65 (55.1%) had normal weight, 40 (33.9%) were overweight and 7 (5.9%) were obesity class- I. Among the female nursing officers 17 (7.6%) were underweight, 123 (54.9%) were normal weight, 63 (28.1%) were overweight, 18 (8.0%) were obesity class -I and 3 (1.3%) were obesity class -II. Prevalence of obesity was higher among the female nurses than the male nurses and obesity class- II was found only among female nurses. Previous study carried out in Sri Lanka reports that 18.2, 52.4, 22.8, and 6.6% of the adult women were of underweight, normal weight, over weight and Obesity Class- I respectively [5]. Rates of overweight and obesity were more among female nurses compared to the general population [5]. Based on the BMI values 39.8 of males and and 37.4% of females were either overweight or obese. Based on waist circumference, 50.8% of males

**Table 1. Ranges of BMI, waist circumference and waist-to-height ratio among male and female nurses working at Teaching Hospital, Jaffna**

Gender	Body Weight (kg)	BMI (kg/m <sup>2</sup> )	Waist circumference (cm)	Waist-to-hip ratio
Male	45.0-100.0	16.5-33.3	68.0-111.0	0.4-0.7
Female	35.2-90.5	15.2-37.9	60.0-119.0	0.4-0.8
Total	35.2-100.0	15.2-37.9	60.0-119.0	0.4-0.8

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and 70.5% of females had central obesity and based on waist-to-height ratio 70.3% of males and 74.6% of females were at high risk. This study shows that even though the BMI values are considered in classifying overweight and obesity, waist circumference and waist-to-height ratio may be more useful to identify health risk. This study indicated that at Teaching Hospital, Jaffna overweight and obesity was more among female nurses than males and these rates were higher than the national values.

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