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BOOK OF ABSTRACT

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ABSTRACT BOOK OF THE 2ND INTERNATIONAL CONFERENCE ON BIOMIMICRY FOR SUSTAINABILITY (ICBS 2025)

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ANTHROPOMETRIC ASSESSMENT OF ADOLESCENTS IN COASTAL UNDERSERVED SETTLEMENTS OF JAFFNA DISTRICT

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Abstract: Adolescents in coastal underserved settlements face health challenges due to limited resources and poor infrastructure. This study assesses the nutritional status of adolescents residing in coastal underserved settlements in the Jaffna District using anthropometric measurements. The ethical approval was obtained from the Ethics review committee of Faculty of Medicine of University of Jaffna. The study included 86 adolescents aged 17–19 years from the reclamation area, with 46.5% males and 53.5% females, having mean ages of 18.1 (± 0.18) and 18.0 (± 0.18) years respectively. The majority of families (79.1%) relied on fishing as their primary livelihood, reflecting the socioeconomic vulnerabilities of the study population. Anthropometric measurements included Body Mass Index (BMI), Waist Circumference (WC), Mid-Upper Arm Circumference (MUAC) and Waist-to-Hip Ratio (WHR). Among males, the mean WC was 77.6 (± 2.18) cm (range 66.1–103.4 cm), MUAC was 28.4 (± 0.68) cm (range 23.0–33.4 cm), and WHR was 0.83 (± 0.01) (range 0.75–0.98). Among females, the mean WC was 83.3 (± 2.6) cm (range 60.4–117.2 cm), MUAC was 29.0 (± 1.10) cm (range 20.1–41.0 cm), and WHR was 0.84 (± 0.01) (range 0.67–0.99). Based on BMI classifications, 30% of males were underweight, 55% had normal weight, and 15% were overweight or obese. Among females, 13% were underweight, 43.5% had normal weight, and 21.7% were overweight or obese. Central obesity, based on WHR cut-off points (≥ 0.9 for males and ≥ 0.85 for females), was identified in 15% of males and 47.8% of females. The study reveals a dual burden of malnutrition, underweight and overweight or obesity among adolescents in these coastal settlements. The high prevalence of central obesity among females poses long-term health risks. These results underline the need for targeted nutritional interventions and health education programs that address both undernutrition and emerging trends of adolescent obesity within marginalized fishing communities.

Keywords: Adolescents; Obesity; Nutritional status; Coastal; Body mass index