Abstract 7:

Body Mass Index and its association with selected sociodemographic factors and academic performance among grade 10 students of Nallur Educational Division

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Background and objective: Malnutrition in children occurs due to socio-economic factors and food insecurity, making it preventable. This study aimed to measure Body Mass Index (BMI) and its association with sociodemographic, socioeconomic factors and academic performance among grade 10 students of Nallur Educational Division.

Methods: A school-based descriptive cross-sectional study was conducted among grade 10 students in Nallur Educational Division. 332 students were selected using proportionate stratified sampling. Self-administered questionnaires, anthropometric measurements, and data extraction sheets were used to collect data, which were analysed using Statistical Package for Social Sciences version 26 (SPSS-26). Height and weight were measured using a stadiometer and bathroom scale, respectively. Body Mass Index (BMI) was calculated and cut off values selected according to age and sex specific charts: $<5^{th}$ percentile, $>85^{th}$ percentile and $>95^{th}$ percentile was considered as underweight, overweight and obese, respectively. Academic performance was categorized as Distinction (75-100), Credit (50-74.9), Ordinary (30-49.9), Fail (<30) based on the average of the second term marks collected from school records. The association between BMI and socio-demographic, socioeconomic, and academic performance was measured using the Chi-squared test.

Results: A total of 332 students participated; 52.7% females and 47.3% males. The prevalence of obesity, overweight, and underweight were 5.4%, 12.3% and 20.2%, respectively. There was no statistically significant association between sex and BMI. Only family size showed a significant association with BMI (p value <0.05); participants from families with more than 5 members were more likely to be underweight compared to those from smaller families. Other socioeconomic factors such as parents' occupation, income, and type of family, did not show a statistically significant association. In the sample, 25.8%, 35.6%, 24.5% and 14.1% obtained distinction, credit, ordinary pass and fail at the second term tests, respectively. The chi-square test showed no significant association between academic performance and BMI.

Conclusions and recommendations: Our study revealed a fifth (20.2%) of the population was underweight. Low BMI was significantly associated with larger family size. There was no significant association between academic performance and BMI.

Keywords: Body Mass Index, Academic performance, Socio-economic factors, Grade 10 student