Prevalence of Overweight and Obesity among Pre-adolescence school children at Al- Nasiriya city, Iraq

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Abstract

Objective: To examine the sociodemographic factors and determine the prevalence of overweight and obesity among students in their early adolescent years.

Method: The cross-sectional study was conducted at four governmental intermediate schools located in Al-Nasiriya city of Thi-Qar Governorate in Iraq from January 2 to February 15, 2021, and comprised students of either gender aged 12-14 years. Data was gathered using a self-designed questionnaire. Body mass index was calculated after measuring the subjects' weight in kilograms on a properly calibrated digital scale and their height in centimetres on an appropriate tape meter scale. Data was analysed using SPSS 23.

Results: Of the 218 subjects, 124(56.88%) were girls and 94(43.12%) were boys. Overall, 100(45.87%) subjects were aged 13 years. There were 71(32.56%) overweight and 30(13.76%) obese subjects. Age and gender were significantly associated with body mass index (p<0.05).

Conclusion: Students in their early adolescent years were relatively more likely to be overweight and obese. Age and gender had a correlation with body mass index.

Keywords: Overweight, Body mass, Paediatric, Obesity, Demography.

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The sample size was calculated using the formula:

$$n = \frac{Z^2 \times p \times (1-p)}{c^2}$$

In the formula, Z value was 1.96 with 95% confidence level; p was percentage picking a choice expressed as 0.5 for the required sample size; c was confidence interval (CI) expressed as 04 = ± 4.

The sample was raised using simple random sampling technique. Verbal consent was taken from the subjects and their parents also furnished written consent. Data was gathered using a predesigned questionnaire. Age, gender, socioeconomic status (SES), as measured by Kuppuswamy’s SES scale, parent education, and anthropometric measures were noted. Weight was measured in kilograms using a calibrated digital scale, and height was measured in centimetres using an appropriate tape meter scale. BMI was calculated and the subjects were categorised using the Centres for Disease Control and Prevention (CDC) gender-specific BMI for age percentile chart, according to which, <5th percentile was underweight, 5th to 85th percentile was healthy weight, <85th and <95th percentile was overweight, and 95th percentile or more was obese.

Data was analysed using SPSS 23. Frequencies and percentages were calculated and cross-tabulated. P<0.05 was considered significant.

### Results

Of the 218 subjects, 124 (56.88%) were girls and 94 (43.12%) were boys. Overall, 100 (45.87%) subjects were aged 13 years; 54 (54%) girls and 46 (46%) boys (Table 1).

Of the total sample, 71 (32.56%) were overweight and 30 (13.76%) were obese. Among the obese, 11 (36.6%) had high SES, 12 (40%) had moderate SES and 7 (23.3%) had low SES (Table 2).

### Discussion

The key finding was that 13% of the participants were obese and 32.6% were overweight, which is consistent with an earlier study.

Among boys, the prevalence was the highest in those aged 14 years, while it was the lowest in those aged 12 years. Among the girls, the prevalence was the highest in those aged 12 years. The finding is consistent with an earlier study in terms of gender, but not according to age.

The current study found higher percentage of overweight and obese children among those with moderate SES, while lower percentage was found among those with low SES, which was in line with literature. However, a 2022 study in South Africa reported no significant association between childhood obesity and household SES.

More girls were found to be overweight compared to boys, and similar findings have been reported earlier.

Finally, the relationship between age and BMI showed significant association, and similar results have been reported by studies done in Iraq and Kuwait.

In the light of the findings, it is recommended that schools should implement comprehensive health education programmes for students and staff with the aim of creating awareness regarding obesity’s origins, complications, and preventive measures.

### Conclusion

Students in their early adolescent years were relatively more likely to be overweight and obese. Age and gender had a correlation with BMI.

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### Disclaimer

None.
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**References**


