The Prevalence of Breakfast Skipping and its Association with BMI z-score in 11-15 year-old Adolescents from Selected Lebanese Regions

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Background: Breakfast skipping is relatively common among adolescents. Breakfast skipping has been associated with poor nutritional status mainly weight gain in some but not all studies; this might be due to the difference in definitions of breakfast which may vary according to various study settings. **Objective:** Determine the prevalence of breakfast skipping and its association with BMI for age among adolescents living in Lebanon. **Participants:** 404 adolescents (203 males and 201 females), aged 11-15 years, located in 3 Lebanese districts (Metn, Kesrouan and Jbeil) were selected from 203 private and public middle schools. Sample selection took into consideration the different proportions of private and public schools, the different sizes of schools in terms of students' enrollment and the difference between each district. 2% of the adolescent's population in these regions has been used except for the Metn District where only 1.3% has been used due to logistical constraints. A consent form was signed by each adolescent. **Design:** cross sectional observational. **Methods:** As there is no standard definition for breakfast skipping, we assessed it using six main questions found in the literature. Total energy intake was estimated by one 24-hour recall. Weight and height were measured by a trained dietician using standardized techniques and calibrated equipment. BMI for age z-score was calculated using WHO standards. Lifestyle and demographic factors were assessed using a questionnaire. Descriptive statistics were used for breakfast skipping, BMI for age z-score, and lifestyle factors. Linear regression controlling for covariates was used to determine the association between skipping breakfast and BMI for age z-score. **Results:** According to the WHO 2007 cutoff points, the prevalence of overweight and obesity in this study was 25% (N=101) and 20% (N=77) respectively. While, in the absence of standardized definition, six questions for breakfast skipping were used and the prevalence varied between 8.4% (N=34) and 42.8% (N= 173). There was no significant association between breakfast skipping and BMI for age z-score even after adjustment for energy intake and demographic factors (p>0.05). However, descriptive statistics such as crosstabs revealed that only 9 (5.2%) of all breakfast skippers based on our definitions had an energy intake equal to zero before 12 a.m. on the 24-hour diet recall. **Conclusion:** Our findings could not confirm an association between breakfast skipping and BMI for age among adolescents. However, we found that the questions used in the literature for breakfast skipping do not reflect lack of eating in the morning as only 9 out of 173 breakfast skippers did not consume anything before 12 a.m. This might be the reason of the lack of association between both variables of interest in our study. Our results show the need of a standardized definition for breakfast skipping.