

OR21-5: Unhealthy Snack Intake Modifies the Association Between Screen-Based Sedentary Time and Metabolic Syndrome in Brazilian Adolescents: Findings from a Country-Wide Survey

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Background: Metabolic syndrome (MetS) in adolescence represents a higher risk for the development of subclinical atherosclerosis and type 2 diabetes mellitus during adulthood. Excessive screen time has been associated with MetS; however, the findings are inconsistent due to the methodological differences among studies. Moreover, unhealthy food intake in front of screens could modify this association, an issue that is not completely clear. Therefore, our objective was to investigate the association between screen-based sedentary times and MetS and whether this association is modified by unhealthy snack intake in front of screens.

Methods: This research is part of the Study on Cardiovascular Risks in Adolescents (ERICA), a nationwide, cross-sectional, school-based survey in Brazil. Adolescents aged 12 to 17 years were included. Measurements of waist circumference, blood pressure and fasting blood samples were collected for the measurement of blood glucose, HDL-cholesterol, and triglycerides. Metabolic syndrome was defined based on the International Diabetes Federation criteria. Screen time was self-reported (i.e. time in front of TV, computers, and videogames) and it was categorized as ≤ 2 hours, 3 to 5 hours, and ≥ 6 hours a day. Snack intake in front of screens was self-reported and the answers were dichotomized into no (if the subject reported no habit of eating in front of a screen) or yes (if they reported eating sometimes, almost every day or every day). For this analysis, we used data from 33,900 students. Associations between screen time and MetS were investigated using logistic regression to estimate the odds ratio. In further analyses, we stratified the sample based on snack intake in front of screens. The majority of the sample was composed of females (59.4%) and the mean age was 14.6 years (CI95%: 14.6-14.7). Half of the sample was classified as physically active, and the majority of them declared that they usually eat snacks in front of TV (85.1%) and computer/videogame (64%).

Results: The adjusted model, which included sociodemographic data, physical activity, and energy intake, showed that adolescents who spent ≥ 6 hours/day in front of screens had a higher odds ratio (OR) for MetS (OR = 1.71, 95%CI: 1.04-2.79) when compared with the reference group. However, the increase in the OR for MetS by screen time categories is observed only among those who reported habitual consumption of snacks while in front of the TV (3-5 hours/day: OR = 1.96, 95%CI: 1.37-2.80; ≥ 6 hours/day: OR = 2.63, 95%CI: 1.68-4.11) or computers/videogames (3-5 hours/day: OR = 1.77, 95%CI: 1.15-2.72; ≥ 6 hours/day: OR = 2.05, 95%CI: 1.24-3.38).

Conclusion: We concluded that higher screen-based sedentary times were positively associated with MetS. However, this association is modified by snack intake. Interventions should address simultaneously the reduction of screen time and snack consumption in order to improve metabolic health among adolescents.

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