NAPCRG 52nd Annual Meeting — Abstracts of Completed Research 2024.

Submission Id: 6380

Title

Association of the COVID-19 Pandemic on Childhood Growth Amongst Children under 6 years old

Priority 1 (Research Category)

Child and adolescent health

Presenters

Isabella Mignacca, MSc, Sumeet Kalia, Charles Keown-Stoneman, PhD, BSc, MSc, Kimberley McFadden, PhD, Helen Valkanas, Karen Tu, MD, MSc, CCFP, FCFP, Imaan Bayoumi, MD, MSc, Patricia Li, MD, FRCPC, MSc

Abstract

Context: There is evidence that the COVID-19 pandemic has impacted childhood growth and obesity prevalence with a dearth of evidence coming from Canada. Examining the impact of the COVID-19 pandemic on childhood growth among young children is important for understanding the potential enduring health and developmental repercussions. Objectives: To determine, among children 0-6 years: 1) the association between the COVID-19 era and the rate of change in the standardized body mass index (zBMI); 2) the association between the COVID-19 era and the mean zBMI; and 3) whether the association between the COVID-19 era and the rate of change in zBMI differed by zBMI quantiles. Study Design and Analysis: Longitudinal cohort study. The exposure was COVID-19 era (pre = March 10, 2018-March 10, 2020; during = March 11, 2020-March 11, 2022). We used piecewise linear mixed effects (objective 1), linear mixed effects (objective 2), and quantile regression (objective 3) models to test the association between COVID-19 and zBMI outcomes adjusted for covariates (age, sex, rurality, income quintiles and material resources indices). Setting: Electronic Medical Record data from primary care clinics in the University of Toronto Practice Based-Research Network Data Safe Haven and Northern Ontario School of Medicine Research Toward Health Hub (Ontario, Canada). Population Studied: Children <6 years of age with a primary care visit between March 2018-March 2022. Outcome Measures: zBMI was the primary outcome. Results: Of the 22,307 children, 17.6% were overweight or obese overall. The mean zBMI pre-and during COVID were -0.122 (SD=1.300) and -0.394 (SD=1.33), respectively. In the adjusted analyses, there was an annual increase pre-COVID in zBMI (0.009 SD units/year (95% CI: 0.001, 0.017); there was no evidence of an association between the pandemic and zBMI rate of change (slope change during COVID -0.004 SD units/year; 95% CI: -0.019, 0.011). There was

an increase in mean zBMI (0.158 SD units, 95% CI: 0.256,0.291) from pre- to during COVID. The quantile regression showed no evidence of an association with COVID-19 era. Conclusion: Although the COVID era was associated with an overall increase in mean zBMI, there was no association with the COVID pandemic and the rate of change in zBMI. The clinical and public health implications of the continued stable increase in childhood zBMI require further study.