

Long-Term Impact of the COVID-19 Pandemic on Diet Quality Among Adults in the Province of Quebec: Longitudinal Analyses of the NutriQuébec Project

Alexandra Lancup-Gauthier, Didier Brassard, Mélina Côté, Annie Lapointe, Catherine Laramée, Simone Lemieux, Sophie Desroches, Arianne Bélanger-Gravel, and Benoît Lamarche

Centre Nutrition, santé et société (NUTRISS), INAF, Université Laval

Objectives: While there is evidence that the early lockdown due to COVID-19 pandemic may have had small positive impacts on several populations' dietary habits, the longer term effects remain largely unknown. The aim of this study was to document changes in diet quality over the two years of the COVID-19 pandemic in adults from the Province of Québec, Canada. We hypothesized that diet quality remained unchanged since the onset of the pandemic.

Methods: Data are from the NutriQuébec project, a web-based cohort destined to study temporal changes in dietary habits among adults in the Province of Quebec, Canada. We retained 1922 participants (85% female, mean age 50.4 ± 15.4 years) who completed questionnaires before March 12, 2020 including validated web-based 24-h dietary recalls. Among those, 918 completed the questionnaires during the first pandemic year (March 2020- February 2021) and 572 recompleted the questionnaires during the second year (March 2021-

February 2022). The study outcome was temporal changes in diet quality measured by the newly developed Healthy Eating Food Index (HEFI-2019), which measures adherence to the recommendations on healthy food choices in the 2019 Canadian Food Guide (CFG), on a scale of 80 points. Temporal changes in HEFI-2019 score were assessed using mixed models adjusted for sex, age, census metropolitan area, marital status, education, occupation, smoking and social and material deprivation index.

Results: The mean pre-pandemic HEFI-2019 score in this cohort was 47.3/80 points (95%CI 45.9 to 48.7). There was no change in the mean HEFI-2019 score during the first year of the pandemic (+0.1 point, 95% CI -0.5 to 0.7) but a small reduction during year 2 (-1.2 points, 95% CI -1.9 to -0.5). The reduction in the HEFI-2019 score at year 2 compared with the pre-pandemic values was mostly seen in September 2021 (-1.4 points vs. September 2019; 95%CI -2.4 to -0.3) and February 2022 (-1.5 point vs. February 2020; 95%CI -2.2 to -0.2).

Conclusions: Contrary to our hypothesis, diet quality in this longitudinal cohort study of adult men and women has slightly deteriorated during the second year of COVID-19. These results are specific to the NutriQuébec sample. The longer-term impact of the pandemic on diet quality needs to be confirmed in other longitudinal cohorts.

Funding Sources: Ministère de la santé et des services sociaux du Québec.