

Characterising risk clusters in the context of curbing obesity

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Conflictos de interés: Los autores declaran no tener conflictos de interés alguno.

Abstract

Background: In the last few years, Canada has been actively working on the implementation of population health programs aimed to improving healthy lifestyle behaviors that have potential to reduce the obesity epidemic. Obesity increases the risk of a number of main chronic diseases and is also associated with an increased risk of premature mortality. Our understanding of the underlying risk factors that contribute to obesity is increasing but there is still much more to be done. Increasingly research is showing that the prevalence of risk behaviors is not independent; most individuals have more than one risk behavior. A better understanding of risk "clusters" or the co-occurrence of unhealthy behaviors will contribute greatly to targeted prevention, health promotion, and policy activities. **Purpose:** The objective of this work is to understand and characterize the clustering of XX risk behaviors contributing to the obesity epidemic in Canada. Our hypothesis is that multiple risk behaviors may occur in single individuals rather than randomly in different individuals and that the groups of people with different combinations of risk can be differentiated using cluster analysis.

Study/Intervention Design: Latent class analysis of cross-sectional survey data

Methods: We will use national survey data collected from the Canadian Community Health Survey (CCHS) and potentially the Canadian Health Measurement Survey (CHMS) to estimate the distribution of XX risk factors known to be associated with the risen rates of obesity among Canadian adults. The risk behaviors include smoking, physical inactivity, sedentary lifestyle, low fruit and vegetable intake, consumption of sugar-sweetened drinks, inadequate sleep, illicit drugs and high alcohol consumption. Prevalence rates of individual risk factors and up to five or more risk factors will be estimated for all adults as well as by sex and age subgroups. All risk factors of interest are set up as categorical variables. Latent class analysis will be used to characterize "clusters" of risk behaviors

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associated with obesity. Mixture models (latent class analysis) gender-specific and for the total population are fit to identify relevant risk behavior clusters associated with obesity. Results: This study presents an overview of chronic disease risk and looks at the national data available to explore the feasibility of deriving meaningful combinations of behavioral risk factors that can inform multifocal multilevel interventions to prevent and/or control obesity in the Canadian population.

Conclusion: Updated prevalence rates of multiple key obesity risk factors in the population and characterizing the clustering of multiple risk factors and their interrelation with each other and with obesity can greatly contribute to informing the curbing childhood obesity. Similar methodology can be applied to other types of risk clusters for the prevention of chronic and other diseases.