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Original Research

Food insecurity and mental illness: disproportionate impacts in the context of perceived stress and social isolation

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ABSTRACT

Objectives: Food insecurity is associated with elevated risk of mental illness. This risk may be further compounded by stressful life events and by social isolation. This study investigated whether the risk of mental illness is higher among individuals experiencing food insecurity along with greater stress and social isolation.

Study design: Cross-sectional self-report survey data from the 2009–10 Canadian Community Health Survey ($N = 100,401$).

Methods: We estimated prevalence differences of the risk of self-reported mental illness associated with food insecurity alone and in combination with stressful life events and social isolation. Sensitivity analyses were conducted on a sub-sample who completed a structured diagnostic interview.

Results: Overall, the prevalence of mental illness was 18.4% [95% CI 16.7–20.1] higher for women and 13.5% higher [95% CI 11.9, 15.2] for men in severely food insecure households compared to those reporting food security. The increased risk of mental illness associated with food insecurity was more pronounced among females and those reporting higher stress and social isolation.

Conclusions: Individuals reporting food insecurity are at increased risk of mental illness. This increased risk is further exacerbated in high stress and socially isolated environments. Policies, clinical and public health interventions must address broader constellations of risks that exist when food insecurity is present.

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Introduction

Food security ‘exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.’¹ Deviations from this ideal state – or food insecurity – range from worries about access to food, to a decrease in the quality and/or quantity of food consumed.² Higher rates of mental illness have been observed among individuals reporting food insecurity.^{3–5} The conditions under which food insecurity and mental illness co-occur have not been extensively studied. Two variables that have been suggested as important factors to consider are the roles of stress and social isolation.

Ross and Hill⁶ describe food insecurity as a component of economic hardship, which is a chronic stressor. Thus food insecurity may increase risk through the association between stress and mental health.^{7,8} However, a number of factors may influence how strongly individuals perceive stress, and prior stressful or adverse life events can increase both the perception of stress and vulnerability to experiencing poor mental health outcomes.⁹ Thus, individuals living in food insecure households, who perceive greater levels of stress in their daily lives may be more vulnerable to experience co-occurring mental health needs. Stress may also help understand previous findings of a stronger association between food insecurity and poor health among women than among men.^{10,11} Others have argued that women experience food insecurity differently than men. For example, women are more likely to be single parents, and in the context of dual parent households, they often assume primary responsibility of managing meals and thus take efforts to protect family members from food insecurity.^{12,13}

A second explanation that has been provided by individuals who report food insecurity is that social isolation contributes to poor mental health. Respondents in a prior qualitative study indicated that they limited participation in social activities and in their communities.¹⁴ In some cases,

respondents reported feelings of guilt and worry about relying on others as contributing to feeling socially different and isolated. While they are the most common responses to address food insecurity, the majority of individuals reporting food insecurity in Canada do not access food banks and other community food programs.^{15,16} Therefore, informal resources within the local community may play an important role in the ability of individuals reporting food insecurity to cope with their circumstances. The extent to which individuals feel connected to (or withdraw from) their local communities may therefore be an important factor in explaining the association between food insecurity and mental illness. It is also possible that stress and community belonging may interact. For example, community belonging may promote resilience to stressful life events such as food insecurity and reduce the risk of mental illness.¹⁷

The current study sought to understand the co-occurrence of food insecurity and mental illness by investigating this association across varying levels of stress and community belonging. We hypothesized that the association between food insecurity and mental illness would be strongest amongst those reporting high stress and weak community belonging.

Methods

This study involved secondary analysis data from the 2009–2010 cycle of the *Canadian Community Health Survey* (CCHS).¹⁸ The CCHS is a cross-sectional, nationally representative survey of the Canadian population aged 12 years or older. The survey uses a three-stage sampling procedure, beginning with random selection of neighbourhoods, then households within these neighbourhoods, and finally a single respondent per household. The overall response rate (accounting for household and individual refusals) for the survey was 71.5%.¹⁸ After we excluded respondents under the age of 18, or who were missing information regarding food insecurity, mental illness, stress and community belonging, the final sample size was 100,401 participants (see Fig. 1).

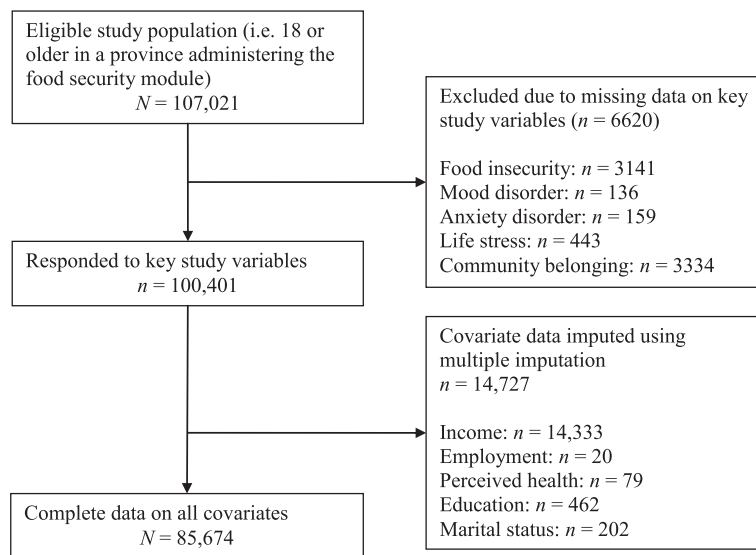


Fig. 1 – Response rates and missing data flow chart from 2009 to 10 Canadian Community Health Survey.

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