

Original quantitative research

Discrimination in the health care system among higher-weight adults: evidence from a Canadian national cross-sectional survey

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Abstract

Introduction: Weight-related social stigma is associated with adverse health outcomes. Health care systems are not exempt of weight stigma, which includes stereotyping, prejudice and discrimination. The objective of this study was to examine the association between body mass index (BMI) class and experiencing discrimination in health care.

Methods: We used data from the 2013 Canadian Community Health Survey, which included measurements of discrimination never collected previously on a national scale. Logistic regression analysis was used to assess the risk of self-reported discrimination in health care in adults (≥ 18 years) across weight categories: not obese (BMI < 30 kg/m²), obese class I (BMI = $30- < 35$ kg/m²) and obese class II or III (BMI ≥ 35 kg/m²).

Results: One in 15 (6.4%; 95% CI: 5.7–7.0%) of the adult population reported discrimination in a health care setting (e.g. physician's office, clinic or hospital). Compared with those in the not obese group, the risk of discrimination in health care was somewhat higher among those in the class I obesity category (odds ratio [OR] = 1.20; 95% CI: 1.00–1.44) and significantly higher among those in class II/III (OR = 1.52; 95% CI: 1.21–1.91), after controlling for sex, age and other socioeconomic characteristics.

Conclusion: Quantified experiences of weight-related discrimination underscore the need to change practitioner attitudes and practices as well as the policies and procedures of the health care system. More research is needed on the social and economic impacts of weight stigma to inform focused investments for reducing discrimination in the health care system as a microcosm of the society it reflects.

Keywords: *body weight, obesity, social stigma, social discrimination, social determinants of health, health surveys, attitude of health personnel*

Introduction

A small but growing body of literature suggests that weight stigma is directly associated with adverse physiological and psychological outcomes.¹ Stigma and discrimination have a spectrum of effects that can lead to negative health outcomes by creating and reinforcing social inequalities.² These inequalities, in turn, limit access to resources and opportunities.²

Stigma in health care undermines diagnosis, treatment and optimal health.³ Consequences of weight stigma may include avoidance of medical care, provider distrust, medication nonadherence, disordered eating, physical inactivity and poorer mental health.⁴⁻⁹ Experiencing weight stigma has been associated with numerous cardiometabolic disturbances including atherosclerosis, cardiovascular conditions, diabetes and biological stress.¹⁰⁻¹³

Highlights

- Weight stigma is associated with adverse physical and mental health outcomes.
- Based on data from the first nationally representative survey on every day and medical discrimination, we found that 6.4% of Canadian adults experienced discrimination in a health care setting.
- Higher-weight people were significantly more likely to report discrimination in health care, after adjusting for sex, income group and other social and demographic characteristics, than those whose body mass index was in the not obese category.
- More research is needed to inform interventions to reduce weight stigma in the health care system.

A longitudinal assessment from the United States associated weight discrimination with increased mortality risk, after adjustment for frequently related morbidities and behaviours.¹⁴ The World Health Organization recognizes that many individuals and groups face discrimination in health care settings on the basis of their sex, age, ethnicity, gender identity, vulnerability to ill health and/or other characteristics—and that such discrimination does not occur in a vacuum.¹⁵ An enhanced evidence base is needed to support accountability and policy development.¹⁵

The implications of stigma and discrimination for population health and health

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inequities are increasingly acknowledged in Canada and elsewhere.¹⁶⁻¹⁸ Data from a national household survey indicate that everyday discrimination persists across multiple social groups in Canada.^{19,20} Discrimination is often attributed to gender and physical characteristics such as weight, although the intergroup empirical patterns of chronic subtle mistreatments do not necessarily follow a straightforward socialization theory trajectory.^{19,20}

In particular, weight stigmatization is a commonly used umbrella term in the literature.²¹ It can be defined as “negative weight-related attitudes and beliefs that are manifested by stereotypes, rejection and prejudice towards individuals because they are overweight or obese.”²² Some studies found that substantial proportions of clinicians hold prejudiced beliefs about higher-weight patients, including that they are less motivated, noncompliant, awkward and lack will power.²³⁻²⁵ In a sample of family physicians practising in Canada (n = 400), large proportions gave responses suggestive of weight bias: 49% agreed that “people with obesity increase demand on the public health care system”; 33% stated they “often feel frustrated with patients who have obesity”; 28% stated they felt “patients with obesity are often noncompliant with treatment recommendations”; 19% said “I feel disgust when treating a patient with obesity”; and 17% indicated that “sometimes I think that people with obesity are dishonest.”²⁶

Under-explored in Canada is the prevalence of weight-based stigma in different settings, despite its pernicious effects.²⁷ This study aims to address this knowledge gap by assessing the association of higher body weight with self-reported discrimination in health care among Canadian women and men.

We used information from a national data collection on stigma and discrimination as an emerging population health issue to support evidence-based health promotion in this context of publicly funded universal health care coverage. The goal is to inform policy actions for enhanced accountability and reduction of stigma in the health care system as a microcosm of the society it reflects.

Methods

Study design

We analyzed data from the 2013 Canadian Community Health Survey (CCHS) and,

specifically, its rapid response module on everyday discrimination. The CCHS is an annual cross-sectional survey administered by Statistics Canada that collects information on health determinants, health status and health care from a nationally representative sample of the community-dwelling population aged 12 years and over. The 2013 CCHS included a unique module that captured data to measure discrimination never collected previously on a national scale.²⁸ The original sample for the CCHS “everyday discrimination” module included 19 876 respondents.²⁹ We limited the sample to adults aged 18 years and over with valid responses to all variables of interest (n = 16 340).

Discrimination in health care

Respondents were asked questions about their perception of discrimination in their day-to-day life and in their experiences with health care services. Previous studies have found itemized measures of perceived discrimination to have consistent predictive validity.³⁰ The outcome variable for this analysis was based on valid answers to the question, “Have you received poorer service than other people in any of the following situations?” The settings included a physician’s office, a community health centre, a walk-in clinic, a hospital emergency room or another health care service.³¹ We measured our outcome dichotomously, that is, whether or not the respondent reported receiving poorer service in any physical health care setting.

Weight category

Our main independent variable was derived from self-reported height and weight. We grouped weight status from calculated body mass index (BMI) based on the standard Health Canada framework for classifying body weight: not categorized as obese (BMI < 30 kg/m²); categorized as obese class I (BMI = 30–<35 kg/m²); and categorized as obese class II or III (BMI ≥ 35 kg/m²). Women who were pregnant at the time of the survey were excluded.

Statistical analysis

We conducted multiple logistic regression analysis to assess the independent association of weight status with stigma in health care, adjusting for other socioeconomic characteristics: sex (male or female); age group (18–29 years, 30–44 years, 45–64 years or

≥ 65 years); marital status (whether or not currently in a marital or common-law union); educational attainment (whether or not a household member had attained a postsecondary level of schooling); and income group. We dichotomized individuals’ income group into lower-range versus higher-range categories based on the total annual household income from all sources (\$0–29 999 versus ≥ 30 000).³²

Bootstrapped survey weights were applied to the descriptive statistics to ensure population representation given the CCHS complex sampling design. Rounding algorithms were further applied to the descriptive counts in respect of data privacy protocols. To ease interpretation of the results from the logistic model, coefficients were converted to odds ratios (ORs) with 95% confidence intervals (CIs) ($\alpha = 0.05$) using statistical software STATA version 15 (StataCorp LP, College Station, TX, USA).

We accessed the confidential survey micro-data used in the analysis in the secure environment of the Statistics Canada Research Data Centre (RDC) at the University of New Brunswick in Fredericton, Canada. The study complied with the University of New Brunswick’s Research Ethics Board, which does not require an internal institutional review for research projects using data accessed through the RDC, in accordance with the *Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans*.³³

Results

Based on data from the CCHS, 32.7% (95% CI: 31.0–34.5%) of the adult population reported experiencing discrimination in their everyday life and 6.4% (5.7–7.0%) reported discrimination in a health care setting. The number reporting discrimination in a health care setting represented 1 616 700 (1 453 400–1 780 000) Canadians. Of these people, 29% (24–33%) specifically reported poorer service in the health care sector, but did not also report everyday discrimination in the previous year.

One in five (19.4%) adults were classified with obesity. Specifically, 13.5% (95% CI: 12.6–14.4%) were categorized with class I obesity and 5.9% (5.4–6.5%) with class II or III (Table 1). Reflecting the aging of the population, there were more adults aged 45 years and over (54.8%; 54.2–55.4%) than those aged 18 to 44 years (45.2%; 44.3–46.0%). Fifteen per cent (15.7%; 95%

TABLE 1
Percentage distribution of the population aged 18 years and over by selected characteristics

| Characteristic | Percentage distribution, % | 95% CI |
|--|----------------------------|-----------|
| Experience of discrimination in a health care setting | | |
| Yes | 6.4 | 5.7–7.0 |
| No | 93.6 | 92.7–94.6 |
| Weight category | | |
| Not obese | 80.6 | 79.5–81.7 |
| Obesity class I | 13.5 | 12.6–14.4 |
| Obesity class II or III | 5.9 | 5.4–6.5 |
| Sex | | |
| Male | 50.2 | 49.8–50.7 |
| Female | 49.8 | 49.2–50.3 |
| Age group, years | | |
| 18–29 | 19.7 | 19.2–20.1 |
| 30–44 | 25.5 | 25.1–25.9 |
| 45–64 | 36.0 | 35.6–36.4 |
| ≥ 65 | 18.8 | 18.6–19.0 |
| Highest level of household education | | |
| At most secondary diploma | 18.8 | 17.9–19.8 |
| Any postsecondary education | 81.2 | 80.0–82.3 |
| Marital status | | |
| Not currently married or in union | 36.7 | 35.5–37.9 |
| Married or common-law | 63.3 | 62.0–64.6 |
| Household income group, \$ | | |
| 0–29 999 | 15.7 | 14.8–16.6 |
| ≥ 30 000 | 84.3 | 83.2–85.5 |

Source: Canadian Community Health Survey 2013–Everyday Discrimination Scale (n = 16 340).

Abbreviation: CI, confidence interval.

Note: Data are bootstrap weighted for population representation.

CI: 14.8–16.6%) were in the lowest household-income range (<\$30,000 annually).

Results from the multiple logistic regression showed that, compared with those whose BMI was categorized as not obese, the odds of reporting discrimination in a health care setting was somewhat higher among those with class I obesity (OR = 1.20, 95% CI: 1.00–1.44, $p = .05$) and significantly higher among those with class II/III obesity (1.52, 1.21–1.91, $p < .05$), after controlling for other sociodemographic characteristics (Table 2).

All else being equal, women had significantly higher odds than men of reporting discrimination in health care (OR = 1.48, 95% CI: 1.29–1.70, $p < .05$). People not currently married or living in union had higher odds of reporting discrimination in health care than those who were married

(1.18, 1.03–1.38, $p < .05$). The odds of those in the lowest household-income group reporting discrimination were higher than those of their higher-income counterparts (1.69, 1.44–2.00, $p < .05$). Individuals aged 45 years and over were less likely to report discrimination in health care than those aged 18 to 29 years. People living in a household of at most secondary-level educational attainment were also less likely to report discrimination than those in households where a postsecondary level had been attained.

Discussion

The need to pay attention to the consequences of systemic weight bias is increasingly advocated in policy and practice recommendations made through the lens of health promotion, equity and social determinants.³⁴

This study is, to our knowledge, the first national investigation quantifying experiences of discrimination in health care among higher-weight persons using data representative of the Canadian population. A non-negligible proportion (6.4%) of adults reported discrimination in a health care setting. Compared with those in the not obese group, the risk of discrimination in health care was approaching statistical significance among those in the class I obesity category (OR = 1.20, 95% CI: 1.00–1.44, $p = .05$) and was significantly higher among those in the class II or III obesity category (1.52, 1.21–1.91, $p < .05$), after controlling for other sociodemographic characteristics.

Being male was found to be independently protective of the risk of experiencing discrimination in a health care setting. Previous studies have found perceived weight discrimination, including in health care contexts, to be more prevalent among women than men.^{35,36} Being in a higher household-income group was associated with a significantly lower risk of experiencing discrimination in health care, whereas being in a household with higher educational attainment was associated with a significantly higher risk. These potentially contradictory patterns of self-reported discriminatory experiences depending on the measure of socioeconomic status examined may reflect, on the one hand, underreporting due to minimization bias (e.g. lack of awareness), or on the other hand, overreporting due to vigilance bias (heightened focus on their social identity status).¹⁹

These results underscore the need to change practitioner attitudes and practices that may be detrimental to health. One in 15 Canadian adults report discrimination in a health care setting, an indicator suggestive of more overt forms of discrimination compared with global discrimination measures.²⁰ However, weight bias has been a neglected issue in health professional education and training.³⁷ Despite the critical importance of an effective provider-patient relationship for achieving positive outcomes, there is little empirical evidence about the pathways to valuing trust and managing the power imbalance.³⁸

More research is needed to address the negative attitudes health care professionals may have towards higher-weight patients and the underlying causes of

TABLE 2
Adjusted odds ratios (with 95% confidence intervals) from the multiple logistic regression for the risk of self-perceived discrimination in a health care setting

| Characteristic | Odds ratio | 95% CI | p-value |
|---|------------|-----------|---------|
| Weight category | | | |
| Not obese (ref.) | 1.00 | – | – |
| Obesity class I | 1.20 | 1.00–1.44 | .05 |
| Obesity class II or III | 1.52* | 1.21–1.91 | <.001 |
| Sex | | | |
| Male (ref.) | 1.00 | – | – |
| Female | 1.48* | 1.29–1.70 | <.001 |
| Age group, years | | | |
| 18–29 (ref.) | 1.00 | – | – |
| 30–44 | 0.97 | 0.79–1.20 | .83 |
| 45–64 | 0.72* | 0.59–0.88 | .001 |
| ≥65 | 0.48* | 0.38–0.59 | <.001 |
| Highest level of household education | | | |
| At most secondary diploma | 0.79* | 0.67–0.93 | .007 |
| Any postsecondary education (ref.) | 1.00 | – | – |
| Marital status | | | |
| Not currently married or in union | 1.18* | 1.03–1.38 | .02 |
| Married or common law (ref.) | 1.00 | – | – |
| Household income group, \$ | | | |
| 0–29 999 | 1.69* | 1.44–2.00 | <.001 |
| ≥ 30 000 (ref.) | 1.00 | – | – |

Source: Canadian Community Health Survey 2013–Everyday Discrimination Scale (n = 16 340).

Abbreviations: CI, confidence interval; ref., reference category.

* p < .05.

weight stigma, as few intervention strategies have proven especially effective to date.^{39,40} A qualitative study of stigma-reduction interventions prioritized better education on the etiology of body size, the difficulty of losing weight and the falsity of common weight-based stereotypes.²² Appropriate interventions need to extend beyond issues of controllability of weight and address the negative value of fatness—such as unwarranted assumptions and judgements regarding higher-weight persons’ health status or attractiveness.^{37,40} As the science of anti-weight stigma intervention expands, to ensure lasting and noticeable impacts, anti-stigma education strategies must be supported through anti-weight discrimination legislation, anti-bullying policies and culture change.⁴¹ In line with this, favouring neutral terminology such as “higher-weight” in health promotion, research and provider–patient communications has been identified

among the evidence-based means of fostering safe and respectful dialogue towards the ultimate goal of eliminating weight-stigmatizing attitudes and practices in health care.^{42–44}

Strengths and limitations

Strengths of the study include the nationally representative nature of the data. While the “true” extent of discrimination may be impossible to determine, as it may be underreported in a survey, the observational data reflect differences between members of Canadian society in judgements of disparate treatment.²⁰

Limitations include the relatively small sample size of the CCHS rapid response module, which was not designed to produce high quality estimates at detailed levels,²⁹ hindering our ability to tease associations between specific health care settings

(such as a hospital emergency department versus a physician’s office) or across provinces. In particular, we were unable to retain the statistical power to comprehensively investigate other individual-level characteristics potentially intersecting with weight-based social identity, such as ethnicity, Indigenous identity, immigration status, occupational type, racialization, language, sexual identity, physical disability status or mental health status.

Given the cross-sectional nature of the data, causality cannot be inferred. It is possible, for example, that individuals’ past experiences of discrimination may have led to changes in weight and BMI categorization.^{1,8} Using data on self-reported weight is known to underestimate BMI compared with measured weight; however, such misreporting is statistically predictable and does not necessarily lead to exaggerated bias in studies aiming to estimate effects of BMI on health-related outcomes (such as, in this case, on weight stigma).⁴⁵ Lastly, while BMI is an expedient measure to collect in national household surveys, it remains an imprecise means of assessing morbidity or mortality risk.^{46,47}

Conclusion

Quantifying experiences of stigma and discrimination in health care settings as related to higher-weight status and other individual characteristics is an important prerequisite to developing and implementing interventions that achieve better population health and equity in the health care system, including in the Canadian context of publicly funded universal coverage. Weight stigma may be exacerbated in the era of the COVID-19 pandemic, when increasing media and social media attention may be paid to weight gain during associated lockdowns.⁴⁸ International consultations have highlighted concerns among higher-weight individuals of scrutiny while eating, exercising and grocery shopping and of being stigmatized by health practitioners as a negative and lasting barrier to accessing care.⁴⁸

The starting points for focused investment in health-care stigma reduction are standardized stigma measures and rigorous evaluation.³ Results from this research, which revealed the persistence of weight stigma in health services delivery, are expected to help support evidence-informed decisions targeting the individual level, to

change practitioner attitudes and practices, and the structural level, to change the policies and procedures of the health system environment that guide the delivery of care.

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Conflicts of interest

The authors declare they have no competing interests.

Authors' contributions and statement

NG, AB, IF and NR contributed to the design of the work and interpretation of the data. NG effected data acquisition. IF conducted formal data analysis. NG and AB prepared the first draft of the manuscript. All the authors critically reviewed the final version.

The content and views expressed in this article are those of the authors and do not necessarily reflect those of the Government of Canada.

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