



Weighing the costs of obesity: a brief review of the health care, workplace, and personal costs associated with obesity

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Despite being a serious public health concern for decades, obesity was only recognized as a chronic disease by the Canadian Medical Association in 2015 [1]. Obesity currently affects 25% of the Canadian adult population, with many projections suggesting the prevalence will continue to increase over the next 20 years [2]. The severity of this health issue is amplified by its numerous physical and psychosocial co-morbidities, including but not limited to, type 2 diabetes, cardiovascular disease, osteoarthritis, depression, and reduced quality of life [3,4]. In addition to the myriad of negative health outcomes, there are substantial economic implications associated with the rising prevalence of obesity. The purpose of this paper is to provide a brief overview of the financial impact of obesity on the Canadian health care system and workplace, as well as highlight the personal economic costs experienced by individuals living with obesity as a result of weight bias and discrimination.

Health Care Costs of Obesity

Calculating the economic burden of illness helps policy makers and public health planners determine how and where to allocate health care funds. A Canadian cost-of-illness study conducted by Anis and colleagues demonstrated that the direct costs (e.g., medication, physician, and hospitalization costs) of obesity in 2005 were \$3.9 billion. Indirect costs (e.g., costs associated with co-morbidities) of obesity were an additional \$3.2 billion, combining for a total of nearly \$7 billion [5]. A more recent literature review of Canadian studies estimates that the total annual cost of obesity may be as high as \$11 billion, representing 12% of Canada's total health expenditures [6]. Indeed, obesity places a considerable burden on the health care system and will undoubtedly escalate as prevalence of the disease increases.

Workplace Costs of Obesity

Obesity-related costs have become a major concern for employers [7]. Based on self-report data available in 2005,

approximately 15.7% of employed Canadian adults (18 to 64 years) were obese [8]. According to a report by Park (2009), obesity was correlated with several negative components of job performance in the Canadian workforce including absenteeism, reduced work activity, and work injury. For example, men who had obesity were nearly three times as likely to be absent from work than their non-obese counterparts [8]. Similarly, Canadian women with obesity were more likely to: [1] report decreased work activities because of a chronic health issue, [2] take a disability day, and [3] experience a work injury than their colleagues with normal weight [8]. The high prevalence of obesity is evident across diverse sectors and environments (e.g., management, clerical, sales and service, transport, manufacturing, and farming), however the impact of obesity appears to be amplified in those occupations that require heavy labour, longer hours (>40 hours), or shift work [8]. While the investigators were unable to quantify the exact costs of lost productivity, the reported proportion of employees with obesity in the Canadian workforce suggests there are substantial financial implications for employers.

Personal Costs of Obesity

The personal costs associated with obesity appear to be less reported on in the literature than health care and workplace costs, including a notable paucity of Canadian studies. Employees with obesity face several negative, work-related stereotypes including but not limited to: being lazy, sloppy, unmotivated, emotionally unstable, less competent, disagreeable, and undisciplined [4]. These stereotypes lead to weight discrimination and stigma, which can create inequities throughout the employment process including hiring, wages, promotions, and termination [4]. Results of a recent study demonstrated that individuals with obesity are discriminated against during job recruitment and tend to be rated less suitable for work by potential employers than their normal weight counterparts [9]. In terms of remuneration, a review conducted by American researchers

found wage inequities between employees with obesity and their non-obese colleagues, with some studies indicating up to 3.4% and 9% decrease in wages for men and women with obesity, respectively [4]. Additionally, workers with obesity were less likely to receive a promotion and had lower rates of wage growth than average weight employees [4]. Finally, findings from qualitative studies have highlighted employees' perceptions that their weight was a major factor in their termination or demotion [4]. Ultimately, weight bias and discrimination in the workplace results in a loss of life chances and significant economic penalties for individuals with obesity [4].

Recommendations for Action

Immediate action must be taken to reduce the financial burden of obesity on the Canadian health care system and work force, and lessen the personal costs experienced by individuals living with obesity. In 2016, Bill 207 was introduced in Manitoba to amend The Human Rights Code to include physical size and body weight as protected characteristics, however it was overturned by the provincial government who deemed it vague and challenging to enforce [10]. Further consideration of protective and antidiscrimination policies is strongly recommended. Future research should examine the effectiveness of workplace health and wellness initiatives for weight maintenance as such interventions could result in reductions of both health care and employer expenditures related to obesity. Research exploring the feasibility of implementing weight bias training as well as anti-discrimination policies within occupational settings is warranted, and if effective, may lessen the economic impact on individuals living with obesity.

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