



Body Weight and the Health of the Adult Population in Québec – Summary

FARDEAU DU POIDS CORPOREL

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These are the key findings of a study entitled *Poids corporel et santé chez les adultes québécois*¹, published in 2014 and available on the Institut national de santé publique du Québec website.

This profile of health problems linked to body weight in the adult population of Québec is published as part of the *Fardeau du poids corporel* collection. The topics that the collection covers also include temporal projections of body weight and the economic burden of overweight and obesity² in Québec.

Summary

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The first Québec study on the health burden associated with body weight

This study provides, for the first time, a profile of the health burden linked to different categories of body weight (underweight, overweight and obesity) among adults 18 years of age or over for the province of Québec. Based on different indicators of physical and mental health drawn from survey data, it describes the proportion and number of men and women who report suffering from specific health problems according to their weight category. The study also identifies the degree to which certain health problems are associated with body weight, as well as highlighting particular associations where Québec stands out from the rest of Canada.

From the standpoint of public health planning, the findings presented can be used to identify initiatives that would most effectively improve the well-being and the quality of life of the Québec population.

Highlights

- In Québec, excess weight is synonymous with a greater number of health problems.
- Obesity is strongly associated with diabetes and hypertension.
- Health problems related to excess weight are more numerous among women.
- Underweight is linked to certain health problems.

Key observations stemming from the profile of the burden of body weight in the adult population of Québec

A portrait of the weight status of the adult population reveals that few women and men suffered from underweight in Québec in 2009-2010, i.e. 1% and 4%, respectively. While the majority of men exhibit excess weight (41% are overweight and 18% are obese), the majority of women display normal weight (54%, as against 27% who are overweight and 15% who are obese).

In Québec, excess weight is synonymous with a greater number of health problems

The study's findings confirm that excess weight (overweight and obesity) is associated with a considerable number of health problems in the adult population in Québec.

The main health problems reported by individuals with excess weight

For the majority of reported health problems, the proportion of individuals affected increases with higher weight categories. Table 1 indicates the 10 main health problems reported by the greatest number of individuals displaying excess weight. The leading problems include hypertension, functional health problems, heightened psychological distress and back pain.

Table 1 Main health problems reported by the adult population in Québec displaying excess weight in 2009-2010, from most frequently reported (1) to least frequently reported (10)

	Men		Women	
	Overweight	Obesity	Overweight	Obesity
1	Functional health problems	Hypertension	Functional health problems	Hypertension
2	Back pain	Functional health problems	Hypertension	Functional health problems
3	Hypertension	Back pain	Heightened psychological distress	At least two chronic diseases
4	Heightened psychological distress	At least two chronic diseases	Back pain	Heightened psychological distress
5	Injuries	Heightened psychological distress	Arthritis	Arthritis
6	At least two chronic diseases	Average or poor self-perception of physical health status	At least two chronic diseases	Back pain
7	Average or poor self-perception of physical health status	Type 2 diabetes	Migraines	Mood or anxiety disorders
8	Frequent activity limitation	Injuries	Osteoporosis (45 years of age or over)	Migraines
9	Arthritis	Frequent activity limitation	Average or poor self-perception of physical health status	Average or poor self-perception of physical health status
10	Type 2 diabetes	Arthritis	Injuries	Frequent activity limitation

Sources of data: Statistics Canada, 2009-2010 Canadian Community Health Survey; Healthy Aging 2008-2009 (for osteoporosis).

The burden of excess weight in comparison with normal weight

An examination of the relationship between weight and health status can identify health problems where individuals who carry excess weight have an elevated risk as compared to individuals of normal weight (see Table 2). Generally speaking, the association between health and weight was not influenced by material and social deprivation.

The burden of obesity in comparison with overweight

In addition to reporting greater numbers of health problems than individuals of normal weight, obese individuals also declare greater numbers of health problems than overweight individuals. This is the case for average or poor perception of state of physical health, activity limitation, hypertension and type 2 diabetes among men and women, as well as for mood or anxiety disorders among women only. Another study conducted among Canadian adults found similar results.³

Obesity is strongly associated with diabetes and hypertension

It is possible to highlight the extent of certain specific health problems by examining the number of persons affected by a health problem together with the strength of association of the problem in individuals who display excess weight (as compared with individuals of normal weight). Of particular note for both men and women are back pain, multiple chronic diseases, activity limitation and functional health problems, while arthritis is notable specifically among women. The most striking associations are found in reporting of type 2 diabetes and hypertension among obese men and women.

Table 2 Health problems associated with overweight and obesity (in relation to normal weight) in the adult population in Québec in 2009-2010

	Men		Women	
	Overweight	Obesity	Overweight	Obesity
		Average or poor self-perception of physical health status	Average or poor self-perception of physical health status	Average or poor self-perception of physical health status
		Functional health problems	Functional health problems	Functional health problems
		Occasional or frequent activity limitation	Occasional or frequent activity limitation	Occasional or frequent activity limitation
Type 2 diabetes		Type 2 diabetes	Type 2 diabetes	Type 2 diabetes
Hypertension		Hypertension	Hypertension	Hypertension
		Heart disease (45 years of age or over)	Heart disease (45 years of age or over)	Heart disease (45 years of age or over)
				Asthma
				Chronic obstructive pulmonary disease (45 years of age or over)
				Cancer (45 years of age or over)
Back pain		Back pain	Back pain	Back pain
		Arthritis	Arthritis	Arthritis
		At least two chronic diseases (versus a single disease)	At least two chronic diseases (versus a single disease)	At least two chronic diseases (versus a single disease)
				Migraines
				Low self-esteem
				Mood or anxiety disorders
				Heightened psychological distress

Sources of data: Statistics Canada, 2009-2010 Canadian Community Health Survey.

Methodology

Data

The study was based on recent data (mostly from 2009-2010) from Statistics Canada's *Canadian Community Health Survey* (CCHS), a cross-sectional survey representative of the population living in private households. Québec data exclude the Nunavik and Cree Territory of James Bay health regions.

Description of the variables

Self-reported body mass index (BMI), expressed in kg/m², is the most practical measurement to estimate body fat at the population level. Following the example of the World Health Organization, BMI has been divided into four categories: underweight (BMI < 18.5), normal weight (18.5 ≤ BMI < 25.0), overweight (25.0 ≤ BMI < 30.0) and obesity (BMI ≥ 30.0).

The *health variables* selected have been divided into three categories: 1) perceptions of one's general health status (self-perception of physical and mental health status, functional health status and activity limitation); 2) physical health problems (type 2 diabetes, hypertension, heart disease, asthma, chronic obstructive pulmonary disease, cancer, back pain, arthritis, osteoporosis, multiple chronic diseases, migraines and injuries) and; 3) mental health problems (self-esteem, anxiety or mood disorders, psychological distress, and suicidal ideation).

Analysis

The health burden according to body weight category in men and women is presented using two types of analyses: 1) a descriptive analysis that presents the proportion and the number of individuals affected (the number of individuals are presented in the full report) by a health problem for each body weight category; and 2) a logistic regression analysis that measures the strength of association of health problems with body weight categories, while also controlling for the effect of age and material and social deprivation. The findings are also compared with corresponding results for the rest of Canada (cf. the full report).

Limitations

In addition to the limitations inherent in the CCHS (collection method, self-reporting of respondents, cross-sectional nature of the survey), the study includes biases linked to the limitations of using BMI to estimate total body fat, as well as the fact that only a limited number of factors were controlled for (age and material and social deprivation) in the regression analyses.

Health problems related to excess weight are more numerous among women

In keeping with other studies, the study finds a greater number of statistically significant associations (after adjusting for age and material and social deprivation) between excess weight and health problems among women than among men. In particular, obesity is linked to 16 health problems among women, compared with nine problems among men (Table 2). Two hypotheses can explain this phenomenon: either obesity truly poses a greater risk for women, or men and women perceive and report their state of health differently.⁴

Underweight is linked to certain health problems

Underweight women are more likely to have a poorer perception of their state of physical health. Underweight men are more likely to have a poorer perception of their state of mental health, suffer from chronic obstructive pulmonary disease (COPD) and report lower self-esteem.* The latter health problem could be attributable to stereotypes of masculine beauty that favour muscular men. The association noted between underweight and COPDs is likely explained by weight loss resulting from the presence of COPD.

Conclusion

The findings of this study reveal that in Québec, especially among women, excess weight is linked to the presence of health problems. In addition to type 2 diabetes and hypertension, the study reveals that other problems such as back pain, functional health problems and activity limitation, also contribute significantly to the health burden of overweight and obesity in Québec.

* The variability of these findings is very high.

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