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# Patient perceptions about obesity management in the context of concomitant care for other chronic diseases

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ABSTRACT

*Background:* Approximately 15% of Canadian adults live with two or more chronic diseases, many of which are obesity related. The degree to which Canadian obesity treatment guidelines are integrated into chronic disease management is unknown.

*Methods:* We conducted a 12-min online survey among a non-probability sample of 2506 adult Canadians who met at least one of the following criteria: 1) BMI $\geq$30 kg/m$^2$; 2) medical diagnosis of obesity; 3) undergone medically supervised treatment for obesity; or 4) a belief that excess/abnormal adipose tissue impairs their health. Participants must have been diagnosed with at least one of 12 prevalent obesity-related chronic diseases. Data analysis consisted of descriptive statistics.

*Results:* One in four (26.4%) reported a diagnosis of obesity, but only 9.2% said they had received medically supervised obesity treatment. The majority (55%) agreed obesity makes managing their other chronic diseases challenging; 39% agreed their chronic disease(s) have progressed or gotten worse because of their obesity. While over half (54%) reported being aware that obesity is classified as a chronic disease, 78% responded obesity was their responsibility to manage on their own. Only 33% of respondents responded they have had success with obesity treatment.

*Interpretation:* While awareness of obesity as a chronic disease is increasing, obesity care within the context of a wider chronic disease management model is suboptimal. More work remains to be done to make Canadian obesity guidelines standard for obesity care.

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## 1. Introduction

More than 8 million Canadians may live with obesity (traditionally measured in epidemiological studies as body mass index [BMI] $\geq$ 30 kg/m$^2$) and nearly 2 million may live with class II (BMI $\geq$35 kg/m$^2$) or class III(BMI $\geq$40 kg/m$^2$) obesity [1]. We say "may live with," as the 2020 *Canadian Adult Obesity Clinical Practice Guidelines* (CPGs) define obesity as a chronic disease characterized by excess or abnormal adiposity that impairs health, which must be diagnosed using objective medical assessment tools that go beyond BMI [2]. There is currently no way of knowing how many Canadian adults have a clinical diagnosis of obesity based on this new definition.

While obesity-related chronic diseases are managed within primary and secondary care systems, obesity as a chronic disease is undertreated [3–6]. While several provincial medical associations as well as the Canadian Medical Association now recognize obesity as a chronic disease [7], no provincial or territorial health system has included obesity within their existing chronic disease management frameworks. Instead, obesity is classified as a lifestyle risk factor for other chronic diseases, which limits access to effective obesity interventions. For example, in 2019 bariatric surgery was available to only one in 171 (0.58%) adult Canadians with Class II or Class III obesity and wait times in some provinces can be as long as four to five years. Furthermore, none of the government approved anti-obesity medications are covered under provincial or territorial public drug benefit programs and less than 20% of Canadians who have private health drug benefit plans have access to anti-obesity medications. Multidisciplinary obesity management programs including cognitive behavioural therapy, nutritional therapy and physical activity counseling are also out of pocket medical expenses that can be cost-prohibitive and limit utilization [8,9]. There are currently less than 300 (out of approximately 86,000) Canadian physicians that are certified in obesity medicine [10]. With so few physicians having specialized training in obesity management, the vast majority of obesity care falls on primary care physicians who may or may not be current on evidence-based obesity medicine. This potential lack of awareness or understanding of best practices in obesity treatment, puts patients at risk of not knowing evidence-based obesity treatment options are available [11,12]. Access to evidence-informed care as recommended in the Canadian CPGs within public healthcare settings and/or via support from public and private insurance and benefits programs lags far behind other chronic diseases [8,9]. The common misperception that obesity results from poor dietary choices and lack of physical activity drives significant stigmatization and discrimination resulting in health inequities [13–16].

Given the increasing prevalence of obesity in Canada and that nearly 15% of the adult population over the age of 20 is living with two or more chronic diseases [17], incorporating the CPGs within existing chronic disease management programs is prudent. No studies have explored how evidence-based obesity care is integrated into existing chronic disease management programs in Canada. Therefore, the aim of this study was to assess patients' awareness of obesity as a chronic disease and their experiences with accessing recommended obesity care outlined in the CPGs within the context of their obesity-related chronic disease care.

## 2. Methods

Obesity Canada (OC), a national registered charity, commissioned Leger Marketing, a Canadian market research and analytics company, to conduct a 12-min online survey among adult participants aged 18+ years who are living with obesity and obesity related chronic diseases. The survey was conducted between November and December 2022.

The Community Action Team of OC, consisting of patient partners and researchers, developed the survey and then in collaboration with an expert advisory panel of physicians from diverse areas of specialization, analyzed the data and co-produced this manuscript. Through the Community Action Team, this project had patient and public involvement (PPI) at its core and was embedded from the beginning of the project through completion.

A statement of informed consent and screening questions were used to determine eligibility. Ethics approval for the study, including the protocol and participant informed consent form, was provided by the York University Research Ethics Board (#3579). Leger's patient panel is the largest Canadian online panel representative of the Canadian population. To ensure the quality of the panel, Leger uses several internal control measures such as a double-consent process and regular update of panelist profiles every 6 months. There were 53,145 email invites sent out to Leger's patient panel, of which 8747 surveys were opened (16%) – which is similar to typical GenPop studies. 2506 completed the survey (5%), which is lower than a typical GenPop study, but as we were looking for a specific participant given the inclusion criteria, this is in line with expectations of this type of research. An important aspect to note is that sample was sent out to panel members in order to ensure the final achieved sample would be as close to the 2021 census data as possible in terms of key demographics (i.e., province, gender, age, socioeconomic demos). We can confirm the breakdown by specific demos of those who opened the link was very similar to the profile of those who were sent invites, showing that there was no bias in terms of who was recruited to the study.

In total, 2506 respondents participated (Table 1). To be eligible, participants needed to select at least one of the following: 1) BMI 30 kg/m$^2$; 2) a diagnosis of obesity by a medical professional; 3) have undergone medically supervised obesity treatment; or 4) belief that excess or abnormal adipose tissue impairs their health. Participants must have also received a diagnosis of at least one of the following obesity-related chronic diseases, selected based on national chronic disease trends and prevalence data about obesity associated conditions [1,18]: hypertension, diabetes, cardiovascular disease (CVD), infertility, polycystic ovary syndrome (PCOS), high cholesterol, sleep apnea, osteoarthritis, depression, anxiety, metabolic associated fatty liver disease (MAFLD), or cancer. Sociodemographic data and disease characteristics of respondents are presented in Table 1. The study used a non-probability sample, as is typical for healthcare research in Canada. Data analysis consisted of descriptive statistics.

## 3. Results

### 3.1. Impact of obesity related chronic diseases

Within the study sample, 67% of respondents reported having at least two obesity-related chronic diseases. Hypertension (41.7%), anxiety (36.2%), high cholesterol (35.0%) and depression (31.2%) were the most common, followed by sleep apnea (21.6%), diabetes (20.6%) and osteoarthritis (18.4%) (Table 2). Over half (55%) agreed obesity makes it challenging to manage other chronic diseases, and 39% agreed their chronic disease(s) have progressed or gotten worse because of their obesity. ***3.2 Access to chronic disease care.***

Respondents typically receive chronic disease care from their primary care physician for obesity-related chronic conditions, such as hypertension (93.8%), anxiety (74.4%), high cholesterol (86.9%), depression (74.4%), diabetes (83.6%), and osteoarthritis (75.5%). Conversely, participants with CVD (70.8%) and cancer (77.9%) were more likely to access specialists, multidisciplinary healthcare teams and allied healthcare professionals for care. Only 17.7% of people with diabetes reported seeing a multidisciplinary healthcare team for their disease (Table 3).

### 3.2. Patient-provider obesity discussion, diagnosis, and treatment

While all respondents can be assumed to have obesity given the inclusion criteria, only 26.4% reported having been given an obesity diagnosis by a healthcare provider, and only 9.2% reported having received medically supervised obesity treatment (Table 2).

Among all obesity-related chronic diseases on average, 46.5% of

**Table 1**
Sociodemographic characteristics (N = 2506).

| Characteristics | % |
|---|---|
| **Sex** | |
| Male | 46.4 |
| Female | 53.2 |
| Non-binary | 0.4 |
| **Age** | |
| 18–24 | 5.5 |
| 25–34 | 12.8 |
| 35–44 | 18.2 |
| 45–54 | 20.2 |
| 55–64 | 19.3 |
| 65+ | 24.1 |
| **Ethnicity** | |
| White (Caucasian) | 85 |
| South Asian | 4 |
| Chinese | 4 |
| Indigenous | 3 |
| Black or African American | 2 |
| Filipino | 1 |
| Latin American | 1 |
| Arab | 1 |
| Southeast Asian | 1 |
| Other (West Asian, Korean, Japanese) | <1 |
| **Regional Distribution** | |
| BC | 13.0 |
| AB | 12.1 |
| SK | 2.9 |
| MN | 4.0 |
| ON | 38.9 |
| QC | 23.0 |
| NB | 2.0 |
| NS | 2.8 |
| PEI | 0.3 |
| NL | 1.0 |
| **Education** | |
| High school or less | 23 |
| College | 33 |
| University | 31 |
| Post-grad. Degree | 12 |
| **Health Insurance Coverage** | |
| Public/provincial coverage only | 47 |
| Private coverage | 45 |
| No coverage | 5 |
| Don't know | 2 |
| Prefer not to answer | 1 |

**Table 2**
Chronic disease status.

| Diagnosis (N = 2506) | % |
|---|---|
| **Body Mass Index (Proxy measure for obesity)** | |
| <25 | 13 |
| 25-29 | 25 |
| 30+ | 62 |
| **Obesity diagnosis by a healthcare provider** | 26.4 |
| **Perceives excess or abnormal adiposity is impairing health (%)** | 91.4 |
| **Undergone medically supervised obesity treatment (%)** | 9.2 |
| **Obesity-related chronic disease diagnosis** | |
| Hypertension | 41.7 |
| Anxiety | 36.2 |
| High cholesterol | 35.0 |
| Depression | 31.2 |
| Sleep apnea | 21.6 |
| Diabetes | 20.6 |
| Osteoarthritis | 18.4 |
| Cardiovascular disease (heart disease, stroke) | 7.5 |
| Metabolically Associated Fatty Liver Disease | 6.0 |
| Infertility | 7.5 |
| Cancer | 7.5 |
| PCOS | 5.9 |

**Table 3**
Healthcare access for obesity related chronic diseases.

| | Hypertension | Anxiety | High cholesterol | Depression | Diabetes | Sleep apnea | Osteoarthritis | Cardiovascular disease | PCOS | Metabolically Associated Fatty Liver Disease (MAFLD) | Cancer | Infertility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Number | 849 | 598 | 588 | 532 | 451 | 318 | 282 | 144 | 105 | 100 | 86 | 45 |
| Primary care physician (family doctor) | 93.8% | 74.4% | 86.9% | 74.4% | 83.6% | 55.3% | 75.5% | 62.5% | 69.5% | 75.0% | 43.0% | 42.2% |
| Healthcare specialist (cardiologist, internist, etc.) | 12.2% | 15.7% | 11.4% | 17.9% | 14.4% | 36.5% | 20.9% | 70.8% | 33.3% | 29.0% | 77.9% | 44.4% |
| Multidisciplinary healthcare team (e.g., diabetes management clinic with doctor, dietitian, nurse practitioner, exercise physiologist, etc.) | 3.2% | 6.4% | 4.8% | 6.2% | 17.7% | 5.3% | 2.8% | 9.0% | 7.6% | 4.0% | 5.8% | 11.1% |
| Allied health professional (dietitian, nurse practitioner, diabetes educator, physiotherapist, etc.) | 2.4% | 7.5% | 3.6% | 8.1% | 10.0% | 7.5% | 8.9% | 2.8% | 6.7% | 2.0% | 3.5% | 6.7% |
| Medical clinic/walk-in clinic | 0.8% | | | | 1.1% | | | | | | | |
| Other | 0.5% | 1.8% | 0.7% | 0.6% | 0.4% | 1.6% | 1.1% | 1.4% | 1.0% | 1.0% | | |
| None | 0.8% | 2.8% | 1.0% | 2.8% | 1.3% | 2.2% | 3.2% | 1.4% | 3.8% | 5.0% | 1.2% | 2.2% |
| I don't know/refusal | | 5.5% | 2.2% | 6.2% | 0.2% | 9.4% | 6.0% | | | | 2.3% | 4.4% |
| (Net) Any | 99.2% | 91.6% | 96.8% | 91.0% | 98.4% | 88.4% | 90.8% | 98.6% | 96.2% | 95.0% | 96.5% | 93.3% |

respondents reported discussing obesity with a healthcare provider. However, it varied drastically by chronic disease. Participants with diabetes (72.1%), MAFLD (73.0%), PCOS (59.0%) and hypertension (55.6%) were more likely to have had obesity related discussions compared to those with depression (33.1%), anxiety (29.6%), and cancer (14.0%). Of those who discussed obesity with a healthcare provider, among all obesity-related chronic diseases on average 53.2% reported having a formal obesity assessment and diagnosis. Of the top four most reported obesity related conditions (i.e., hypertension, anxiety, high cholesterol, and depression), those with hypertension (38.8%) were the least likely to report a formal obesity assessment/diagnosis, and those with depression (55.9%) were the most likely to report a formal obesity assessment/diagnosis. (Table 4).

Among all obesity-related chronic diseases, on average, 47.8% of those who discussed obesity with a provider also reported discussing obesity treatment options. Those with depression (48.6%), MAFLD (48.4%), diabetes (46.0%), and hypertension (44.9%) were most likely to report obesity treatment discussions while those with osteoarthritis (59.0%), cancer (58.3%), and cardiovascular disease (45.2%) were least likely.

While obesity treatments offered varied by chronic disease, on average physical activity (31.3%), pharmacotherapy (27.4%) and nutritional therapy (27.4%) were the most common obesity treatments suggested to patients with obesity-related chronic diseases. Nutrition advice for obesity management was frequently given to individuals with diabetes (47.9%), MAFLD (43.0%), cardiovascular disease (35.4%) and high cholesterol (34.4%). Exercise for obesity management was frequently provided to individuals with cardiovascular disease (40.3%), diabetes (40.1%), MAFLD (38.0%), hypertension (37.8%), PCOS (37.1%), osteoarthritis (34.8%) and high cholesterol (33.0%). Obesity pharmacotherapy was recommended to patients with diabetes (47.0%), hypertension (46.2%), high cholesterol (43.9%) and cardiovascular disease (39.6%). The least common obesity treatments provided were access or referral to mental health support (8.9%) and referral to a specialist or bariatric surgical centre (5.6%) (Table 4).

Many patients who discussed obesity with a healthcare provider reported not receiving any obesity treatment recommendations (average 33.7% across all obesity-related chronic diseases). A total of 44.3% of individuals with sleep apnea, 37.1% of individuals with anxiety, 37.0% of individuals with depression, 22.6% of individuals with high cholesterol, 20.8% of individuals with hypertension did not receive any obesity treatment.

### 3.3. Patient experiences

Among respondents who reported having conversations about obesity with their healthcare provider 52.8% perceived healthcare providers support for obesity management to be “very helpful” or “somewhat helpful” (Table 4). Specifically, respondents with diabetes (74.9%), high cholesterol (66.8%), hypertension (64.9%), and cardiovascular disease (61.1%) reported very/somewhat helpful support. However, a significant proportion of respondents with PCOS (66.7%), infertility (64.4%), depression (52.1%) and anxiety (49.3%) perceived the obesity management support they received was “not very helpful” or “not at all helpful.”

When provided with the new obesity definition established in the 2020 Canadian CPGs, 53.6% of respondents reported being aware that obesity is classified as a chronic disease by the Canadian Medical Association, Obesity Canada, and the World Health Organization. However, 78.3% of respondents (independent of chronic disease diagnosis) “strongly” or “slightly” agreed obesity was their responsibility to manage on their own. Men (80.7%) were more likely than women (76.3%) to feel this way, as were those aged ≥55 (81.2%) versus those ≤35 (71.0%) (Table 5).

While a majority (63.0%) of the entire sample felt (“strongly” or “slightly” agreed) they received similar quality of care for their chronic disease as patients without obesity, 50.0% “strongly” or “slightly agree” they wished their healthcare providers would take obesity management more seriously, and 40.7% agreed a lack of effective obesity management limited their ability to manage their other conditions. Only 32.7% of respondents “strongly/slightly agree” that they have had ongoing success with an obesity treatment regimen from their healthcare provider.

Fewer women (26% versus 41% of men) and individuals older than 55 years old (29% versus 37% for individuals aged 35–54 years and 34% for individuals under 35 years) perceive having ongoing success with obesity management.

Among all obesity-related chronic diseases, an average of 16.6% of patients reported being refused treatment because of their BMI. This was highest among those with infertility (44.4%), anxiety (28.2%), depression (19.9%), and cancer (16.7%) (Table 4).

Close to one in four (26.2%) respondents said they received advice to lose weight as a prerequisite to receiving a specific healthcare procedure or treatment. Among these respondents, 55.6% were informed about how their weight could impact treatment outcomes, but only 25.0% were referred to an obesity management program; 27.1% had discussions about obesity management options but were not referred for treatment. Of those who received advice to lose weight before a treatment or procedure, almost half (47.9%) did not receive a referral to an obesity management program (Table 6).

Among those who were advised to lose weight to access a specific medical procedure or general treatment and who were informed about obesity treatments, 52.5% were provided with physical activity information and nutrition advice, 15.7% were informed about obesity pharmacotherapy, 11.6% received information about behavioural therapy and psychological support, and 11.3% were informed about bariatric surgery (Table 6).

More than a fifth of respondents (21.8%) strongly or slightly agreed with being “treated with less respect and/or judged” for their weight by their healthcare providers, and 39.1% strongly/slightly agreed they avoid talking about obesity with their healthcare provider. Similarly, 38.1% strongly/slightly agreed healthcare providers make assumptions about their eating and physical activity patterns because of their weight and 22% report that healthcare providers blame them for their weight. Furthermore, 17.8% strongly/slightly agreed they receive poorer treatment and/or feel they have been treated unfairly from healthcare providers because of their weight and 18.8% strongly/slightly agreed their healthcare provider missed a chronic disease diagnosis because the provider focused solely on weight as the underlying cause of symptoms.

In all, one in five (19.1%) strongly/slightly agreed they avoided or delayed seeing healthcare because of fear that their provider would focus solely on their weight rather than the problem for which they were seeking help.

Individuals reporting perceptions of being treated with less respect or feeling judged by their health care providers had hypertension (27.9%), anxiety (27.9%), depression (28.1%), and/or high cholesterol (15.6%). As a result, individuals with hypertension (14.6%), anxiety (25.1%), high cholesterol (13.7%), and depression (25.7%) were more likely to avoid healthcare providers. Among the less reported obesity-related chronic condition, individuals with infertility (40.5%) and PCOS (37.6%) perceived being treated with less respect or feeling judged for their weight and reported avoiding seeking healthcare providers (PCOS, 37.6% and Infertility, 40.5%) (Table 5). Based on the total sample, 22% of respondents report that healthcare providers blame them for their weight, 31.8% report that healthcare providers blame their health issues on their weight, 33.2% report being told by a healthcare provider to lose weight even when seeking treatment for another condition, 38.1% report that healthcare providers assume things about their diet and physical activity because of their weight, and 17.9% feel healthcare providers often talk about their weight instead of what they want to talk about.

**Table 4**
Obesity discussions, assessment & diagnosis, and treatment.

| | Answer | high blood pressure | anxiety | high cholesterol | depression | diabetes | sleep apnea | osteoarthritis | cardiovascular disease | PCOS | Metabolically Associated Fatty Liver Disease (MAFLD) | cancer | infertility | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Discussed obesity with healthcare provider** | **Yes** | 55.6% | 29.6% | 45.2% | 33.1% | 72.1% | 43.1% | 43.3% | 50.0% | 59.0% | 73.0% | 14.0% | 40.0% | 46.5% |
| | **No** | 44.4% | 70.4% | 54.8% | 66.9% | 27.9% | 56.9% | 56.7% | 50.0% | 41.0% | 27.0% | 86.0% | 60.0% | 53.5% |
| | **Total** | 849 | 598 | 588 | 532 | 451 | 318 | 282 | 144 | 105 | 100 | 86 | 45 | |
| **Conducted an obesity medical assessment and diagnosis** | **Yes** | 38.8% | 46.8% | 50.4% | 55.9% | 48.3% | 51.1% | 44.3% | 63.0% | 47.2% | 53.2% | 50.0% | 88.9% | 53.2% |
| | **No** | 61.2% | 53.2% | 49.6% | 44.1% | 51.7% | 48.9% | 55.7% | 37.0% | 52.8% | 46.8% | 50.0% | 11.1% | 46.8% |
| | **Total** | 472 | 325 | 266 | 177 | 176 | 137 | 122 | 73 | 72 | 62 | 12 | 18 | |
| **Discussed obesity treatments** | **Yes** | 44.9% | 51.7% | 52.3% | 48.6% | 46.0% | 46.0% | 41.0% | 54.8% | 41.7% | 48.4% | 41.7% | 50.0% | 47.8% |
| | **No** | 55.1% | 48.3% | 47.7% | 51.4% | 54.0% | 54.0% | 59.0% | 45.2% | 58.3% | 51.6% | 58.3% | 50.0% | 52.2% |
| | **Total** | 849 | 598 | 588 | 532 | 451 | 318 | 282 | 144 | 105 | 100 | 86 | 45 | |
| **Provided any of the following obesity treatments** | **Weight management advice** | 27.8% | 16.4% | 23.0% | 16.4% | 36.8% | 17.3% | 18.1% | 22.9% | 30.5% | 37.0% | 10.5% | 13.3% | 22.5% |
| | **Nutritional advice** | 29.3% | 21.6% | 34.4% | 20.5% | 47.9% | 18.9% | 18.8% | 35.4% | 30.5% | 43.0% | 12.8% | 15.6% | 27.4% |
| | **Access to or referral to a dietitian** | 17.6% | 8.0% | 12.2% | 11.3% | 36.6% | 9.7% | 9.2% | 20.8% | 16.2% | 21.0% | 8.1% | 13.3% | 15.3% |
| | **Medically managed weight management program with meal replacements (Optifast)** | 1.5% | 3.8% | 3.2% | 2.8% | 4.9% | 2.2% | 1.4% | 9.0% | 5.7% | 4.0% | 2.3% | 2.2% | 3.6% |
| | **Exercise advice** | 37.8% | 26.4% | 33.0% | 24.8% | 40.1% | 24.2% | 34.8% | 40.3% | 37.1% | 38.0% | 10.5% | 28.9% | 31.3% |
| | **Access to or referral to an exercise specialist (exercise physiologist/ kinesiologist)** | 3.2% | 5.4% | 5.6% | 5.3% | 4.7% | 4.7% | 5.3% | 11.1% | 5.7% | 6.0% | | 13.3% | 6.4% |
| | **Referral to an obesity specialist and/or bariatric clinci** | 3.9% | 3.2% | 4.1% | 3.8% | 5.5% | 6.9% | 3.9% | 3.5% | 7.6% | 8.0% | 3.5% | 13.3% | 5.6% |
| | **Prescription medication** | 46.2% | 22.6% | 43.9% | 25.4% | 47.0% | 10.4% | 16.0% | 39.6% | 34.3% | 16.0% | 8.1% | 20.0% | 27.4% |
| | **Access to or referral to mental health support (cognitive behavioral therapy, psychologist, counseling, etc.)** | 5.2% | 17.4% | 3.6% | 25.9% | 6.4% | 6.6% | 2.1% | 4.2% | 9.5% | 6.0% | | 11.1% | 8.9% |
| | **Information about available commercial programs related to obesity management (e.g., WW, Jenny Craig, Dr. Bernstein, TOPS, Over Eaters Anonymous)** | 3.8% | 3.8% | 6.3% | 1.9% | 3.1% | 2.8% | 2.8% | 3.5% | 8.6% | 3.0% | 2.3% | 6.7% | 4.0% |
| | **Use of a sleep apnea machine/CPAP machine** | | | | | | 2.8% | | | | | | | 2.8% |
| | **Other** | 0.1% | | | 0.2% | 0.2% | 1.3% | 0.7% | 0.7% | | 1.0% | | | 0.6% |
| | **None of the above** | 20.8% | 37.1% | 22.6% | 37.0% | 14.0% | 44.3% | 41.8% | 23.6% | 26.7% | 28.0% | 70.9% | 37.8% | 33.7% |
| | **I don't know/refusal** | | 0.8% | | 0.4% | | 2.2% | 0.7% | 0.7% | | | | | 1.0% |
| | **(Net) Any** | 79.2% | 62.0% | 77.4% | 62.6% | 86.0% | 53.5% | 57.4% | 75.7% | 73.3% | 72.0% | 29.1% | 62.2% | 65.9% |
| | **Total** | 849 | 598 | 588 | 532 | 451 | 318 | 282 | 144 | 105 | 100 | 86 | 45 | |
| **How helpful do you find healthcare providers are in helping/supporting your obesity management?** | **Very helpful** | 25.6% | 13.5% | 26.4% | 13.5% | 35.7% | 12.3% | 11.3% | 19.4% | 11.4% | 17.0% | 29.1% | 17.8% | 19.4% |
| | **Somewhat helpful** | 39.3% | 37.1% | 40.5% | 34.4% | 39.2% | 39.0% | 33.0% | 41.7% | 21.9% | 37.0% | 19.8% | 17.8% | 33.4% |
| | **Not very helpful** | 19.0% | 22.9% | 18.7% | 25.2% | 14.2% | 25.5% | 27.0% | 22.2% | 37.1% | 25.0% | 11.6% | 24.4% | 22.7% |
| | **Not at all helpful** | 16.1% | 26.4% | 14.5% | 26.9% | 10.9% | 23.3% | 28.7% | 16.7% | 29.5% | 21.0% | 39.5% | 40.0% | 24.5% |
| **Q11sum3: Refused treatment based on your BMI/weight?** | **Yes** | 6.8% | 28.2% | 13.2% | 19.9% | 7.7% | 11.7% | 13.1% | 12.5% | 12.9% | 12.3% | 16.7% | 44.4% | 16.6% |
| | **No** | 93.2% | 71.8% | 86.8% | 80.1% | 92.3% | 88.3% | 86.9% | 87.5% | 87.1% | 87.7% | 83.3% | 55.6% | 83.4% |

**Table 5**
Patient perceptions of obesity management and general healthcare services.

| Questions | Answer | Total | Sex | | Age | | | Chronic Condition | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | <35 | 35–54 | 55+ | High blood pressure | Anxiety | High cholesterol | Depression | Sleep apnea | Diabetes | Osteoarthritis | Cancer | Cardiovascular disease | MAFLD | PCOS | Infertility |
| | | 2506 | 1163 | 1332 | 459 | 960 | 1087 | 1045 | 907 | 876 | 782 | 542 | 516 | 460 | 189 | 187 | 150 | 149 | 84 |
| **Q16 Obesity Canada along with the World Health Organization (WHO), and the Canadian Medical Association, recognize obesity as a chronic disease. Obesity Canada recognizes obesity as a complex, progressive, relapsing chronic disease where excess or abnormal adipose tissue (body fat) impairs health. Prior to reading that definition, did you know obesity was classified as a chronic disease?** | Yes | 53.6% | 53.9% | 53.1% | 57.5% | 54.7% | 50.9% | 52.0% | 54.1% | 51.4% | 53.6% | 54.4% | 52.5% | 57.6% | 54.5% | 53.5% | 56.0% | 55.0% | 54.8% |
| | No | 46.4% | 46.1% | 46.9% | 42.5% | 45.3% | 49.1% | 48.0% | 45.9% | 48.6% | 46.4% | 45.6% | 47.5% | 42.4% | 45.5% | 46.5% | 44.0% | 45.0% | 45.2% |
| **Q17r2 Obesity makes managing my other related chronic disease(s) more difficult.** | Strongly agree | 20.2% | 19.4% | 20.7% | 19.6% | 23.4% | 17.5% | 22.1% | 21.9% | 21.2% | 25.8% | 25.1% | 25.4% | 25.0% | 14.8% | 25.7% | 34.0% | 29.5% | 32.1% |
| | Slightly agree | 34.9% | 34.2% | 35.6% | 33.1% | 35.7% | 35.0% | 37.0% | 35.2% | 35.4% | 37.7% | 38.6% | 39.3% | 36.1% | 29.6% | 34.2% | 38.0% | 36.2% | 26.2% |
| | Slightly disagree | 16.6% | 19.8% | 13.9% | 15.7% | 15.3% | 18.2% | 17.5% | 14.9% | 17.6% | 14.7% | 16.6% | 15.5% | 15.2% | 21.2% | 19.3% | 12.0% | 12.1% | 16.7% |
| | Strongly disagree | 9.8% | 9.6% | 9.8% | 9.6% | 7.8% | 11.6% | 8.0% | 9.8% | 9.4% | 6.9% | 6.5% | 9.9% | 10.4% | 15.3% | 9.1% | 7.3% | 8.1% | 7.1% |
| | Don't know/not applicable | 18.5% | 16.9% | 20.0% | 22.0% | 17.7% | 17.8% | 15.3% | 18.2% | 16.4% | 14.8% | 13.3% | 9.9% | 13.3% | 19.0% | 11.8% | 8.7% | 14.1% | 17.9% |
| **Q17r11 My chronic disease(s) have progressed or gotten worse because of my obesity.** | Strongly agree | 12.3% | 12.6% | 11.9% | 14.8% | 14.5% | 9.2% | 11.8% | 15.7% | 12.0% | 17.5% | 17.0% | 15.9% | 15.9% | 7.4% | 13.4% | 26.7% | 21.5% | 21.4% |
| | Slightly agree | 27.5% | 26.4% | 28.6% | 29.4% | 30.6% | 23.9% | 29.2% | 30.4% | 26.3% | 30.9% | 33.9% | 28.3% | 31.5% | 21.7% | 27.3% | 31.3% | 30.9% | 32.1% |
| | Slightly disagree | 21.9% | 24.2% | 19.8% | 17.9% | 19.3% | 25.9% | 24.6% | 17.5% | 25.0% | 19.1% | 21.0% | 24.8% | 20.2% | 24.9% | 24.6% | 18.7% | 19.5% | 11.9% |
| | Strongly disagree | 18.5% | 19.7% | 17.4% | 13.3% | 15.4% | 23.5% | 18.0% | 16.1% | 19.7% | 14.2% | 13.3% | 18.4% | 17.2% | 26.5% | 21.9% | 10.7% | 12.8% | 19.0% |
| | Don't know/not applicable | 19.8% | 17.1% | 22.2% | 24.6% | 20.2% | 17.5% | 16.5% | 20.3% | 17.0% | 18.3% | 14.8% | 12.6% | 15.2% | 19.6% | 12.8% | 12.7% | 15.4% | 15.5% |
| **Q17r12: A lack of effective obesity management has limited my ability to effectively manage my other conditions.** | Strongly agree | 11.5% | 11.7% | 11.4% | 14.6% | 13.5% | 8.5% | 11.8% | 13.7% | 10.6% | 14.5% | 16.1% | 14.7% | 12.4% | 7.9% | 10.2% | 18.7% | 14.1% | 16.7% |
| | Slightly agree | 29.1% | 28.7% | 29.7% | 29.6% | 33.1% | 25.4% | 30.3% | 31.0% | 30.6% | 31.8% | 33.9% | 30.6% | 30.4% | 21.2% | 29.4% | 30.7% | 38.9% | 35.7% |
| | Slightly disagree | 22.0% | 23.9% | 20.3% | 19.0% | 19.7% | 25.3% | 22.6% | 18.0% | 23.7% | 20.7% | 20.7% | 27.1% | 21.1% | 24.3% | 24.6% | 23.3% | 13.4% | 20.2% |
| | Strongly disagree | 18.3% | 19.9% | 16.7% | 12.6% | 15.4% | 23.3% | 19.7% | 16.8% | 19.7% | 14.6% | 14.9% | 17.2% | 18.3% | 27.5% | 22.5% | 15.3% | 14.8% | 13.1% |

(*continued on next page*)

**Table 5** (*continued*)

| Questions | Answer | Total | Sex | | Age | | | Chronic Condition | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | <35 | 35–54 | 55+ | High blood pressure | Anxiety | High cholesterol | Depression | Sleep apnea | Diabetes | Osteoarthritis | Cancer | Cardiovascular disease | MAFLD | PCOS | Infertility |
| | Don't know/not applicable | 19.0% | 15.7% | 21.8% | 24.2% | 18.2% | 17.6% | 15.6% | 20.6% | 15.3% | 18.4% | 14.4% | 10.3% | 17.8% | 19.0% | 13.4% | 12.0% | 18.8% | 14.3% |
| **Q17r3 My healthcare provider (s) prioritizes obesity management as an important part of my chronic disease management** | Strongly agree | 11.5% | 13.0% | 10.1% | 11.1% | 14.1% | 9.3% | 12.3% | 12.8% | 13.4% | 10.5% | 13.8% | 14.7% | 12.4% | 9.5% | 16.0% | 18.0% | 12.8% | 16.7% |
| | Slightly agree | 24.3% | 29.1% | 20.1% | 26.8% | 25.6% | 22.2% | 26.4% | 23.9% | 28.7% | 23.8% | 22.5% | 30.4% | 22.0% | 18.5% | 19.3% | 28.7% | 18.8% | 26.2% |
| | Slightly disagree | 22.9% | 23.1% | 22.8% | 22.9% | 19.5% | 25.9% | 25.1% | 20.5% | 22.7% | 22.6% | 26.0% | 25.8% | 21.5% | 24.9% | 28.9% | 22.7% | 26.2% | 16.7% |
| | Strongly disagree | 20.4% | 16.2% | 23.9% | 14.4% | 20.1% | 23.2% | 19.3% | 21.7% | 18.7% | 24.3% | 21.6% | 17.6% | 24.1% | 27.5% | 19.8% | 20.7% | 25.5% | 19.0% |
| | Don't know/not applicable | 20.9% | 18.6% | 23.0% | 24.8% | 20.7% | 19.5% | 16.8% | 21.1% | 16.6% | 18.8% | 16.1% | 11.4% | 20.0% | 19.6% | 16.0% | 10.0% | 16.8% | 21.4% |
| **Q17r4: My healthcare provider (s) has given me useful advice regarding obesity management.** | Strongly agree | 14.9% | 18.3% | 11.8% | 14.6% | 16.5% | 13.6% | 16.3% | 14.8% | 17.4% | 14.2% | 13.7% | 19.2% | 13.3% | 13.8% | 15.0% | 18.0% | 16.1% | 19.0% |
| | Slightly agree | 31.5% | 35.3% | 28.2% | 29.2% | 33.2% | 30.9% | 34.3% | 30.0% | 34.2% | 29.5% | 34.5% | 39.5% | 30.2% | 29.6% | 34.8% | 39.3% | 26.2% | 32.1% |
| | Slightly disagree | 19.1% | 18.3% | 19.9% | 20.7% | 17.3% | 20.0% | 18.9% | 18.0% | 18.8% | 19.9% | 19.7% | 18.6% | 19.8% | 16.4% | 20.3% | 17.3% | 22.8% | 20.2% |
| | Strongly disagree | 18.7% | 14.3% | 22.4% | 16.6% | 18.0% | 20.1% | 18.2% | 20.2% | 17.0% | 21.1% | 20.1% | 13.8% | 21.3% | 22.8% | 15.5% | 20.0% | 21.5% | 15.5% |
| | Don't know/not applicable | 15.9% | 13.8% | 17.7% | 19.0% | 15.0% | 15.4% | 12.3% | 17.1% | 12.6% | 15.2% | 12.0% | 8.9% | 15.4% | 17.5% | 14.4% | 5.3% | 13.4% | 13.1% |
| **Q17r13 I wish my healthcare provider(s) would take obesity management more seriously** | Strongly agree | 19.2% | 17.3% | 20.9% | 21.6% | 21.8% | 16.0% | 18.9% | 21.8% | 18.0% | 24.0% | 22.3% | 21.3% | 20.0% | 15.3% | 17.6% | 28.7% | 28.2% | 23.8% |
| | Slightly agree | 30.8% | 30.3% | 31.2% | 34.4% | 31.4% | 28.7% | 30.8% | 32.3% | 28.5% | 31.8% | 31.7% | 27.3% | 28.7% | 24.9% | 26.7% | 29.3% | 34.2% | 33.3% |
| | Slightly disagree | 17.5% | 21.0% | 14.4% | 14.4% | 15.7% | 20.3% | 19.4% | 14.2% | 20.8% | 13.2% | 19.9% | 20.3% | 18.5% | 24.9% | 26.2% | 18.0% | 12.8% | 19.0% |
| | Strongly disagree | 9.9% | 10.0% | 9.7% | 7.2% | 9.4% | 11.4% | 10.9% | 9.6% | 11.8% | 9.3% | 8.1% | 14.3% | 9.3% | 8.5% | 10.2% | 10.7% | 8.1% | 9.5% |
| | Don't know/not applicable | 22.7% | 21.5% | 23.7% | 22.4% | 21.8% | 23.6% | 20.0% | 22.1% | 20.9% | 21.6% | 17.9% | 16.7% | 23.5% | 26.5% | 19.3% | 13.3% | 16.8% | 14.3% |
| **Q17r15 I have had ongoing success with obesity treatment from my healthcare provider(s).** | Strongly agree | 10.2% | 12.6% | 8.1% | 11.5% | 11.7% | 8.4% | 10.5% | 10.6% | 12.1% | 10.9% | 10.5% | 13.8% | 8.9% | 9.5% | 8.6% | 19.3% | 9.4% | 15.5% |
| | Slightly agree | 22.5% | 27.9% | 17.8% | 22.2% | 24.9% | 20.4% | 23.3% | 21.6% | 26.4% | 20.7% | 25.1% | 28.3% | 20.2% | 15.9% | 26.2% | 21.3% | 18.8% | 25.0% |
| | Slightly disagree | 18.0% | 19.3% | 16.9% | 17.2% | 16.5% | 19.8% | 20.0% | 16.5% | 19.9% | 18.0% | 21.4% | 19.8% | 15.7% | 20.6% | 18.2% | 20.0% | 23.5% | 19.0% |
| | Strongly disagree | 19.0% | 13.7% | 23.6% | 15.5% | 17.9% | 21.4% | 18.9% | 20.9% | 16.4% | 24.3% | 20.8% | 17.4% | 23.3% | 23.3% | 14.4% | 25.3% | 28.2% | 19.0% |
| | Don't know/not applicable | 30.3% | 26.4% | 33.6% | 33.6% | 29.1% | 30.0% | 27.3% | 30.3% | 25.2% | 26.1% | 22.1% | 20.7% | 32.0% | 30.7% | 32.6% | 14.0% | 20.1% | 21.4% |

(*continued on next page*)

**Table 5** (*continued*)

| Questions | Answer | Total | Sex | | Age | | | Chronic Condition | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | <35 | 35–54 | 55+ | High blood pressure | Anxiety | High cholesterol | Depression | Sleep apnea | Diabetes | Osteoarthritis | Cancer | Cardiovascular disease | MAFLD | PCOS | Infertility |
| **Q17r6: I feel it is my responsibility to manage obesity on my own.** | Strongly agree | 40.7% | 43.2% | 38.4% | 31.2% | 42.1% | 43.5% | 41.3% | 38.3% | 42.0% | 39.5% | 40.6% | 40.1% | 42.8% | 47.1% | 46.5% | 40.7% | 40.9% | 34.5% |
| | Slightly agree | 37.6% | 37.6% | 37.8% | 39.9% | 36.5% | 37.7% | 39.7% | 36.4% | 37.7% | 39.3% | 36.7% | 40.3% | 35.2% | 34.4% | 34.8% | 39.3% | 37.6% | 31.0% |
| | Slightly disagree | 9.1% | 8.0% | 10.1% | 11.5% | 8.8% | 8.5% | 8.5% | 9.6% | 9.6% | 9.2% | 11.4% | 10.7% | 9.6% | 7.4% | 11.2% | 12.0% | 13.4% | 22.6% |
| | Strongly disagree | 4.4% | 3.9% | 4.8% | 4.4% | 5.1% | 3.8% | 4.4% | 5.7% | 4.5% | 3.8% | 4.6% | 4.8% | 5.2% | 2.6% | 2.7% | 4.0% | 5.4% | 7.1% |
| | Don't know/not applicable | 8.1% | 7.4% | 8.8% | 13.1% | 7.6% | 6.5% | 6.0% | 10.0% | 6.3% | 8.2% | 6.6% | 4.1% | 7.2% | 8.5% | 4.8% | 4.0% | 2.7% | 4.8% |
| **Q17r7 I believe that I receive the same quality of care for my chronic disease(s) as someone who does not have obesity** | Strongly agree | 33.7% | 37.7% | 30.3% | 19.2% | 30.2% | 42.9% | 40.2% | 29.7% | 38.2% | 32.5% | 37.1% | 39.7% | 36.7% | 42.9% | 44.4% | 34.0% | 21.5% | 22.6% |
| | Slightly agree | 29.4% | 32.2% | 27.2% | 28.1% | 31.1% | 28.3% | 29.2% | 28.7% | 30.7% | 26.1% | 27.7% | 28.7% | 29.8% | 28.6% | 27.8% | 28.7% | 24.2% | 22.6% |
| | Slightly disagree | 11.9% | 10.1% | 13.4% | 17.9% | 12.9% | 8.5% | 10.2% | 12.6% | 9.9% | 13.7% | 13.1% | 11.6% | 10.7% | 10.6% | 12.8% | 16.0% | 20.8% | 23.8% |
| | Strongly disagree | 7.4% | 5.8% | 8.6% | 12.0% | 8.1% | 4.9% | 5.9% | 9.9% | 6.4% | 9.3% | 6.6% | 7.9% | 7.2% | 3.7% | 3.7% | 8.7% | 14.1% | 11.9% |
| | Don't know/not applicable | 17.6% | 14.2% | 20.6% | 22.9% | 17.6% | 15.5% | 14.4% | 19.2% | 14.7% | 18.4% | 15.5% | 12.0% | 15.7% | 14.3% | 11.2% | 12.7% | 19.5% | 19.0% |
| **Q17r5: I am comfortable discussing obesity management with my healthcare provider(s).** | Strongly agree | 34.4% | 37.8% | 31.5% | 20.9% | 33.5% | 40.9% | 38.6% | 30.8% | 42.2% | 32.1% | 34.7% | 40.3% | 41.7% | 34.4% | 40.1% | 42.0% | 25.5% | 29.8% |
| | Slightly agree | 32.6% | 35.5% | 30.1% | 30.9% | 34.0% | 32.1% | 33.7% | 30.2% | 32.4% | 32.7% | 35.1% | 34.3% | 27.6% | 29.6% | 32.1% | 31.3% | 30.9% | 34.5% |
| | Slightly disagree | 14.9% | 11.7% | 17.6% | 20.5% | 16.0% | 11.5% | 13.2% | 18.9% | 11.3% | 17.6% | 16.4% | 12.2% | 13.0% | 13.8% | 13.4% | 14.7% | 18.1% | 16.7% |
| | Strongly disagree | 6.5% | 4.8% | 7.9% | 11.5% | 6.0% | 4.8% | 5.6% | 8.4% | 5.0% | 8.1% | 5.7% | 5.4% | 6.1% | 9.0% | 4.8% | 6.7% | 15.4% | 8.3% |
| | Don't know/not applicable | 11.6% | 10.1% | 12.9% | 16.1% | 10.4% | 10.7% | 9.0% | 11.8% | 9.0% | 9.5% | 8.1% | 7.8% | 11.5% | 13.2% | 9.6% | 5.3% | 10.1% | 10.7% |
| **Q17r9 I avoid talking about obesity with my healthcare providers.** | Strongly agree | 10.5% | 9.4% | 11.3% | 14.6% | 11.7% | 7.7% | 9.2% | 13.0% | 8.3% | 15.0% | 11.4% | 11.4% | 8.7% | 10.1% | 8.0% | 12.0% | 18.8% | 16.7% |
| | Slightly agree | 28.7% | 25.7% | 31.4% | 32.0% | 31.1% | 25.0% | 27.9% | 30.4% | 24.9% | 29.9% | 30.3% | 26.0% | 25.7% | 24.3% | 24.6% | 29.3% | 34.2% | 27.4% |
| | Slightly disagree | 26.0% | 28.9% | 23.5% | 23.3% | 23.8% | 29.2% | 27.9% | 23.8% | 29.8% | 26.0% | 25.5% | 27.1% | 27.6% | 27.0% | 29.4% | 28.0% | 24.2% | 27.4% |
| | Strongly disagree | 21.3% | 23.7% | 19.3% | 11.3% | 21.0% | 25.8% | 23.9% | 19.0% | 25.8% | 17.4% | 22.9% | 27.5% | 24.1% | 23.3% | 27.3% | 23.3% | 14.1% | 15.5% |
| | Don't know/not applicable | 13.5% | 12.3% | 14.6% | 18.7% | 12.4% | 12.3% | 11.0% | 13.8% | 11.2% | 11.8% | 10.0% | 7.9% | 13.9% | 15.3% | 10.7% | 7.3% | 8.7% | 13.1% |
| **Q17r10 I avoid healthcare services, even for other conditions, because of my obesity.** | Strongly agree | 6.4% | 6.8% | 6.1% | 10.5% | 8.0% | 3.3% | 5.6% | 9.3% | 4.6% | 8.1% | 7.4% | 7.8% | 3.9% | 3.2% | 4.8% | 9.3% | 12.8% | 10.7% |
| | Slightly agree | 14.3% | 13.6% | 14.9% | 22.0% | 19.1% | 6.8% | 13.3% | 18.0% | 11.6% | 17.9% | 15.5% | 16.1% | 8.5% | 7.4% | 9.6% | 17.3% | 20.1% | 21.4% |

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**Table 5** (*continued*)

| Questions | Answer | Total | Sex | | Age | | | Chronic Condition | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | <35 | 35–54 | 55+ | High blood pressure | Anxiety | High cholesterol | Depression | Sleep apnea | Diabetes | Osteoarthritis | Cancer | Cardiovascular disease | MAFLD | PCOS | Infertility |
| | Slightly disagree | 19.3% | 20.4% | 18.4% | 22.9% | 20.4% | 16.7% | 17.6% | 19.7% | 20.2% | 20.2% | 22.7% | 17.4% | 17.8% | 15.3% | 20.9% | 23.3% | 22.8% | 28.6% |
| | Strongly disagree | 48.4% | 50.0% | 47.0% | 26.4% | 40.0% | 65.1% | 55.3% | 40.2% | 55.6% | 43.4% | 47.4% | 52.5% | 58.9% | 60.8% | 57.8% | 45.3% | 35.6% | 27.4% |
| | Don't know/not applicable | 11.6% | 9.2% | 13.7% | 18.3% | 12.5% | 8.0% | 8.1% | 12.8% | 8.0% | 10.5% | 7.0% | 6.2% | 10.9% | 13.2% | 7.0% | 4.7% | 8.7% | 11.9% |
| **Q17r8: I believe the support and care I receive for obesity management is similar in scope compared to that I receive for other chronic disease(s).** | Strongly agree | 14.4% | 16.6% | 12.5% | 13.1% | 13.9% | 15.4% | 14.9% | 14.6% | 17.0% | 13.7% | 14.6% | 17.8% | 15.2% | 14.3% | 16.0% | 16.7% | 10.1% | 16.7% |
| | Slightly agree | 26.7% | 30.7% | 23.3% | 25.9% | 30.0% | 24.0% | 27.3% | 24.9% | 30.1% | 24.0% | 25.6% | 31.8% | 22.0% | 22.8% | 26.7% | 27.3% | 24.2% | 31.0% |
| | Slightly disagree | 20.4% | 20.2% | 20.5% | 18.7% | 18.4% | 22.7% | 23.1% | 18.7% | 20.7% | 20.8% | 24.9% | 21.5% | 21.1% | 18.0% | 21.9% | 24.7% | 20.1% | 20.2% |
| | Strongly disagree | 15.2% | 12.0% | 17.9% | 14.6% | 14.8% | 15.8% | 15.1% | 16.8% | 13.4% | 19.4% | 16.4% | 14.1% | 19.6% | 22.2% | 16.0% | 20.0% | 26.2% | 14.3% |
| | Don't know/not applicable | 23.4% | 20.5% | 25.8% | 27.7% | 22.9% | 22.1% | 19.6% | 25.0% | 18.8% | 22.0% | 18.5% | 14.7% | 22.2% | 22.8% | 19.3% | 11.3% | 19.5% | 17.9% |
| **Q22pr1: I feel I receive the same level of care from healthcare providers as a patient without obesity.** | Strongly agree | 41.7% | 45.3% | 38.7% | 23.5% | 36.6% | 54.0% | 47.5% | 35.3% | 49.1% | 38.6% | 41.1% | 48.1% | 46.7% | 48.7% | 52.9% | 42.7% | 30.2% | 34.5% |
| | Slightly agree | 24.3% | 26.1% | 22.7% | 27.7% | 27.3% | 20.1% | 23.1% | 25.5% | 22.6% | 25.3% | 24.9% | 23.8% | 21.1% | 22.8% | 20.9% | 25.3% | 26.8% | 22.6% |
| | Slightly disagree | 9.7% | 7.7% | 11.5% | 16.8% | 10.9% | 5.6% | 7.8% | 11.2% | 7.8% | 10.9% | 10.7% | 9.9% | 8.7% | 5.8% | 5.9% | 14.0% | 18.8% | 17.9% |
| | Strongly disagree | 9.1% | 8.6% | 9.4% | 12.6% | 9.8% | 7.0% | 8.5% | 11.2% | 8.9% | 10.7% | 10.3% | 9.1% | 9.8% | 8.5% | 10.7% | 10.7% | 12.1% | 13.1% |
| | Don't know/not applicable | 15.2% | 12.3% | 17.7% | 19.4% | 15.4% | 13.2% | 13.2% | 16.8% | 11.6% | 14.5% | 12.9% | 9.1% | 13.7% | 14.3% | 9.6% | 7.3% | 12.1% | 11.9% |
| **Q22pr2: I receive poorer treatment and/or feel I have been treated unfairly from healthcare providers because of my weight.** | Strongly agree | 6.6% | 6.6% | 6.5% | 13.1% | 7.0% | 3.5% | 5.9% | 8.3% | 5.3% | 9.2% | 8.3% | 6.0% | 7.8% | 2.1% | 7.5% | 11.3% | 11.4% | 15.5% |
| | Slightly agree | 11.3% | 10.1% | 12.2% | 18.7% | 14.1% | 5.6% | 9.1% | 15.1% | 9.6% | 14.3% | 12.7% | 11.2% | 10.2% | 5.3% | 8.6% | 10.0% | 22.1% | 20.2% |
| | Slightly disagree | 18.2% | 17.3% | 19.0% | 20.9% | 19.2% | 16.3% | 16.8% | 18.1% | 18.2% | 17.9% | 19.6% | 16.9% | 15.4% | 13.8% | 14.4% | 25.3% | 22.1% | 26.2% |
| | Strongly disagree | 50.3% | 54.3% | 47.1% | 29.0% | 46.1% | 63.0% | 56.8% | 43.6% | 57.1% | 46.5% | 48.3% | 56.8% | 55.7% | 66.1% | 62.6% | 46.0% | 30.9% | 28.6% |
| | Don't know/not applicable | 13.6% | 11.8% | 15.2% | 18.3% | 13.6% | 11.6% | 11.3% | 15.0% | 9.9% | 12.0% | 11.1% | 9.1% | 10.9% | 12.7% | 7.0% | 7.3% | 13.4% | 9.5% |
| **Q22pr3: I am treated with less respect and/or feel judged by healthcare providers because of my weight.** | Strongly agree | 7.1% | 6.7% | 7.3% | 14.6% | 8.0% | 3.1% | 5.6% | 9.0% | 5.5% | 9.8% | 9.6% | 6.6% | 6.7% | 1.1% | 9.1% | 8.0% | 16.8% | 16.7% |
| | Slightly agree | 14.7% | 12.5% | 16.7% | 24.6% | 17.1% | 8.4% | 13.0% | 18.9% | 10.2% | 18.3% | 15.5% | 13.0% | 12.0% | 11.6% | 8.6% | 19.3% | 20.8% | 23.8% |
| | Slightly disagree | 17.9% | 17.9% | 18.0% | 17.9% | 19.1% | 16.8% | 17.2% | 18.5% | 19.5% | 18.0% | 19.6% | 19.6% | 16.1% | 13.8% | 17.6% | 24.0% | 20.1% | 23.8% |
| | Strongly disagree | 48.2% | 52.7% | 44.4% | 26.8% | 43.9% | 61.1% | 54.4% | 40.7% | 55.6% | 43.6% | 44.8% | 53.1% | 55.7% | 60.8% | 58.8% | 42.0% | 29.5% | 26.2% |

(*continued on next page*)

**Table 5** (*continued*)

| Questions | Answer | Total | Sex | | Age | | | Chronic Condition | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | <35 | 35–54 | 55+ | High blood pressure | Anxiety | High cholesterol | Depression | Sleep apnea | Diabetes | Osteoarthritis | Cancer | Cardiovascular disease | MAFLD | PCOS | Infertility |
| | Don't know/not applicable | 12.1% | 10.2% | 13.7% | 16.1% | 12.0% | 10.6% | 9.8% | 12.9% | 9.2% | 10.2% | 10.5% | 7.8% | 9.6% | 12.7% | 5.9% | 6.7% | 12.8% | 9.5% |
| **Q22pr4: I avoid healthcare providers because of my weight.** | Strongly agree | 5.9% | 5.2% | 6.6% | 13.3% | 7.3% | 1.7% | 3.3% | 8.2% | 4.2% | 9.1% | 5.7% | 5.8% | 4.1% | 0.5% | 4.8% | 8.7% | 16.1% | 15.5% |
| | Slightly agree | 12.5% | 10.9% | 13.8% | 22.7% | 15.6% | 5.3% | 11.4% | 17.0% | 9.5% | 16.6% | 13.3% | 10.1% | 9.3% | 5.3% | 12.3% | 17.3% | 21.5% | 16.7% |
| | Slightly disagree | 16.4% | 15.0% | 17.5% | 18.1% | 19.1% | 13.2% | 15.1% | 17.2% | 16.3% | 16.2% | 17.2% | 16.3% | 15.4% | 14.8% | 11.8% | 22.0% | 22.1% | 21.4% |
| | Strongly disagree | 56.1% | 60.4% | 52.5% | 32.0% | 49.4% | 72.3% | 63.6% | 47.9% | 63.8% | 50.9% | 56.8% | 63.8% | 63.9% | 69.8% | 66.8% | 48.0% | 34.2% | 38.1% |
| | Don't know/not applicable | 9.1% | 8.5% | 9.6% | 13.9% | 8.6% | 7.5% | 6.6% | 9.8% | 6.2% | 7.2% | 7.0% | 4.1% | 7.2% | 9.5% | 4.3% | 4.0% | 6.0% | 8.3% |
| **Q22pr5: I delay seeking help from healthcare providers because of my weight.** | Strongly agree | 5.9% | 5.2% | 6.3% | 12.0% | 7.4% | 1.9% | 4.2% | 7.6% | 4.5% | 8.6% | 5.5% | 6.2% | 3.9% | 1.1% | 4.3% | 6.7% | 16.8% | 15.5% |
| | Slightly agree | 15.0% | 13.7% | 16.3% | 24.8% | 18.8% | 7.6% | 13.3% | 20.6% | 11.2% | 19.7% | 15.3% | 13.8% | 11.7% | 7.4% | 11.8% | 20.7% | 22.8% | 21.4% |
| | Slightly disagree | 16.6% | 16.0% | 17.0% | 18.5% | 17.9% | 14.5% | 15.2% | 17.4% | 16.4% | 17.0% | 17.7% | 15.3% | 15.9% | 12.7% | 15.5% | 18.7% | 16.8% | 15.5% |
| | Strongly disagree | 52.5% | 55.9% | 49.5% | 30.7% | 45.9% | 67.4% | 58.9% | 44.0% | 60.6% | 46.7% | 53.5% | 59.9% | 60.4% | 67.7% | 64.7% | 48.7% | 36.9% | 36.9% |
| | Don't know/not applicable | 10.1% | 9.2% | 10.8% | 13.9% | 10.0% | 8.5% | 8.3% | 10.4% | 7.3% | 8.1% | 7.9% | 4.8% | 8.0% | 11.1% | 3.7% | 5.3% | 6.7% | 10.7% |
| **Q22pr6: I find myself avoiding or delaying seeing a healthcare provider because they will focus on my weight rather than problem I'm going to see them about.** | Strongly agree | 6.3% | 5.5% | 7.0% | 14.2% | 7.0% | 2.4% | 4.9% | 8.7% | 4.1% | 9.7% | 6.8% | 6.4% | 5.2% | 1.1% | 4.8% | 10.0% | 15.4% | 19.0% |
| | Slightly agree | 12.8% | 11.8% | 13.7% | 21.1% | 16.7% | 5.9% | 11.5% | 17.1% | 11.1% | 15.7% | 14.8% | 12.4% | 9.8% | 4.8% | 13.4% | 16.7% | 23.5% | 16.7% |
| | Slightly disagree | 18.8% | 18.8% | 18.8% | 21.8% | 20.7% | 15.8% | 17.3% | 20.0% | 18.8% | 19.4% | 19.4% | 17.8% | 15.7% | 12.2% | 15.0% | 20.0% | 22.8% | 25.0% |
| | Strongly disagree | 51.0% | 54.7% | 47.9% | 26.1% | 44.9% | 67.0% | 58.2% | 41.8% | 58.6% | 44.9% | 51.1% | 57.6% | 60.0% | 69.8% | 63.1% | 46.0% | 32.9% | 28.6% |
| | Don't know/not applicable | 11.1% | 9.2% | 12.7% | 16.8% | 10.7% | 8.9% | 8.1% | 12.5% | 7.4% | 10.2% | 7.9% | 5.8% | 9.3% | 12.2% | 3.7% | 7.3% | 5.4% | 10.7% |
| **Q22pr8: My healthcare provider blames me for being overweight.** | Strongly agree | 6.8% | 6.4% | 7.1% | 10.9% | 8.8% | 3.3% | 5.6% | 8.8% | 5.9% | 8.8% | 7.7% | 7.9% | 6.7% | 2.1% | 7.5% | 10.0% | 14.8% | 17.9% |
| | Slightly agree | 15.2% | 15.6% | 14.9% | 22.4% | 17.3% | 10.4% | 14.5% | 16.9% | 13.9% | 17.6% | 16.8% | 13.8% | 13.0% | 10.6% | 20.3% | 24.7% | 22.8% | 16.7% |
| | Slightly disagree | 17.1% | 18.0% | 16.4% | 18.7% | 18.3% | 15.4% | 18.1% | 17.0% | 19.2% | 16.2% | 16.8% | 18.6% | 15.7% | 12.7% | 16.6% | 18.7% | 18.8% | 25.0% |
| | Strongly disagree | 43.3% | 45.7% | 41.2% | 26.8% | 38.2% | 54.8% | 46.2% | 38.5% | 47.0% | 40.0% | 42.6% | 46.9% | 49.1% | 55.0% | 50.3% | 36.7% | 30.9% | 26.2% |
| | Don't know/not applicable | 17.5% | 14.3% | 20.4% | 21.1% | 17.4% | 16.1% | 15.6% | 18.9% | 13.9% | 17.3% | 16.1% | 12.8% | 15.4% | 19.6% | 5.3% | 10.0% | 12.8% | 14.3% |

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**Table 5** (*continued*)

| Questions | Answer | Total | Sex | | Age | | | Chronic Condition | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | <35 | 35–54 | 55+ | High blood pressure | Anxiety | High cholesterol | Depression | Sleep apnea | Diabetes | Osteoarthritis | Cancer | Cardiovascular disease | MAFLD | PCOS | Infertility |
| **Q22pr9: Healthcare providers blame my health concerns/ issues on my being overweight.** | Strongly agree | 8.8% | 8.0% | 9.3% | 14.8% | 9.7% | 5.4% | 9.0% | 10.3% | 8.1% | 11.1% | 9.6% | 9.9% | 8.3% | 3.2% | 6.4% | 15.3% | 20.1% | 17.9% |
| | Slightly agree | 23.0% | 21.7% | 24.0% | 27.2% | 28.3% | 16.5% | 24.7% | 26.2% | 23.6% | 26.2% | 30.6% | 25.8% | 23.3% | 15.9% | 25.1% | 40.0% | 32.9% | 28.6% |
| | Slightly disagree | 18.7% | 21.1% | 16.7% | 18.1% | 17.9% | 19.6% | 18.7% | 17.2% | 18.5% | 16.8% | 17.2% | 23.4% | 15.7% | 10.1% | 19.3% | 13.3% | 18.8% | 22.6% |
| | Strongly disagree | 35.4% | 37.5% | 33.8% | 22.0% | 30.3% | 45.6% | 36.5% | 31.1% | 38.9% | 32.1% | 31.4% | 33.1% | 39.6% | 57.1% | 41.7% | 24.0% | 20.1% | 20.2% |
| | Don't know/not applicable | 14.1% | 11.8% | 16.2% | 17.9% | 13.8% | 12.9% | 11.2% | 15.2% | 10.8% | 13.8% | 11.3% | 7.8% | 13.3% | 13.8% | 7.5% | 7.3% | 8.1% | 10.7% |
| **Q22pr10: Physicians and other healthcare providers have missed diagnoses because they focused only on my weight.** | Strongly agree | 6.7% | 6.1% | 7.1% | 14.2% | 8.3% | 2.0% | 4.4% | 9.3% | 4.6% | 10.5% | 7.0% | 6.0% | 6.7% | 1.1% | 5.9% | 10.0% | 15.4% | 17.9% |
| | Slightly agree | 12.1% | 12.3% | 11.9% | 21.1% | 14.7% | 6.1% | 10.4% | 16.0% | 11.3% | 14.5% | 14.6% | 13.2% | 10.4% | 6.9% | 11.2% | 20.7% | 23.5% | 28.6% |
| | Slightly disagree | 16.0% | 16.2% | 15.8% | 17.0% | 17.8% | 13.9% | 15.6% | 17.3% | 16.0% | 16.4% | 16.8% | 15.9% | 15.4% | 12.7% | 13.4% | 16.0% | 20.1% | 17.9% |
| | Strongly disagree | 48.6% | 51.8% | 46.0% | 27.9% | 42.3% | 62.9% | 55.2% | 40.5% | 54.9% | 43.2% | 46.7% | 53.7% | 54.8% | 61.9% | 60.4% | 44.7% | 28.2% | 22.6% |
| | Don't know/not applicable | 16.6% | 13.7% | 19.1% | 19.8% | 16.9% | 15.1% | 14.4% | 17.0% | 13.2% | 15.5% | 14.9% | 11.2% | 12.6% | 17.5% | 9.1% | 8.7% | 12.8% | 13.1% |
| **Q22pr11: I have been told by a healthcare provider to lose weight even when seeking treatment for something else/another health issue or condition.** | Strongly agree | 10.9% | 9.5% | 12.0% | 15.5% | 13.6% | 6.5% | 10.2% | 12.6% | 9.4% | 14.7% | 12.2% | 12.2% | 10.9% | 4.8% | 11.8% | 17.3% | 24.8% | 29.8% |
| | Slightly agree | 22.3% | 25.5% | 19.7% | 29.8% | 22.7% | 18.9% | 23.3% | 24.5% | 24.2% | 24.2% | 26.6% | 27.7% | 21.1% | 21.7% | 25.7% | 32.7% | 28.2% | 19.0% |
| | Slightly disagree | 17.8% | 18.5% | 17.2% | 15.9% | 19.1% | 17.4% | 16.9% | 16.5% | 18.5% | 16.5% | 19.0% | 18.0% | 19.1% | 11.6% | 15.0% | 11.3% | 15.4% | 13.1% |
| | Strongly disagree | 36.5% | 36.5% | 36.6% | 20.9% | 32.6% | 46.6% | 39.7% | 32.6% | 38.6% | 33.2% | 32.1% | 35.3% | 37.6% | 48.7% | 41.7% | 30.7% | 22.1% | 27.4% |
| | Don't know/not applicable | 12.5% | 10.1% | 14.5% | 17.9% | 12.0% | 10.7% | 9.9% | 13.8% | 9.4% | 11.4% | 10.1% | 6.8% | 11.3% | 13.2% | 5.9% | 8.0% | 9.4% | 10.7% |
| **Q22pr12: My treatment has been delayed because of the focus on my weight.** | Strongly agree | 4.7% | 4.8% | 4.7% | 10.0% | 5.7% | 1.7% | 3.1% | 6.8% | 3.7% | 7.8% | 5.4% | 5.6% | 4.8% | 1.1% | 3.2% | 8.7% | 9.4% | 15.5% |
| | Slightly agree | 9.5% | 10.2% | 8.9% | 17.0% | 12.2% | 4.0% | 7.7% | 12.2% | 8.2% | 11.3% | 13.7% | 8.7% | 5.9% | 3.7% | 8.0% | 11.3% | 16.8% | 16.7% |
| | Slightly disagree | 17.1% | 16.8% | 17.5% | 20.7% | 18.8% | 14.2% | 16.3% | 18.3% | 16.2% | 18.3% | 16.8% | 19.6% | 15.2% | 10.1% | 17.1% | 20.0% | 22.8% | 22.6% |
| | Strongly disagree | 52.1% | 54.6% | 50.0% | 29.8% | 46.8% | 66.2% | 58.9% | 44.4% | 59.4% | 47.4% | 50.7% | 54.5% | 58.3% | 69.8% | 63.1% | 48.0% | 36.9% | 33.3% |
| | Don't know/not applicable | 16.5% | 13.6% | 18.9% | 22.4% | 16.6% | 13.9% | 14.2% | 18.2% | 12.6% | 15.2% | 13.5% | 11.6% | 15.9% | 15.3% | 8.6% | 12.0% | 14.1% | 11.9% |
| **Q22pr14: Healthcare providers assume things about my diet and physical activity because of my weight.** | Strongly agree | 12.7% | 10.3% | 14.5% | 20.0% | 15.1% | 7.5% | 11.4% | 15.8% | 10.4% | 19.1% | 12.9% | 13.6% | 12.8% | 6.3% | 13.4% | 16.0% | 26.2% | 27.4% |
| | Slightly agree | 25.4% | 24.8% | 26.1% | 27.2% | 28.8% | 21.6% | 24.3% | 29.2% | 25.5% | 27.0% | 29.2% | 28.3% | 22.8% | 21.7% | 25.1% | 37.3% | 35.6% | 31.0% |

(*continued on next page*)

**Table 5** (*continued*)

| Questions | Answer | Total | Sex | | Age | | | Chronic Condition | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | <35 | 35–54 | 55+ | High blood pressure | Anxiety | High cholesterol | Depression | Sleep apnea | Diabetes | Osteoarthritis | Cancer | Cardiovascular disease | MAFLD | PCOS | Infertility |
| | Slightly disagree | 16.7% | 17.9% | 15.7% | 17.2% | 15.8% | 17.2% | 17.6% | 14.9% | 18.3% | 15.6% | 16.6% | 16.9% | 15.4% | 15.3% | 16.6% | 16.0% | 16.8% | 14.3% |
| | Strongly disagree | 27.6% | 29.8% | 25.6% | 19.4% | 23.8% | 34.4% | 29.4% | 23.5% | 30.3% | 23.7% | 26.9% | 26.9% | 31.1% | 37.6% | 32.1% | 22.7% | 12.1% | 14.3% |
| | Don't know/not applicable | 17.7% | 17.2% | 18.2% | 16.1% | 16.6% | 19.3% | 17.3% | 16.6% | 15.6% | 14.7% | 14.4% | 14.3% | 17.8% | 19.0% | 12.8% | 8.0% | 9.4% | 13.1% |
| **Q22pr13: Healthcare providers often talk about my weight instead of what I want to talk about.** | Strongly agree | 5.1% | 5.4% | 4.8% | 11.3% | 6.3% | 1.6% | 3.9% | 7.3% | 3.5% | 7.5% | 5.5% | 5.4% | 4.8% | | 4.8% | 6.0% | 9.4% | 17.9% |
| | Slightly agree | 12.8% | 13.2% | 12.6% | 22.0% | 15.6% | 6.5% | 11.4% | 16.1% | 11.9% | 16.2% | 13.7% | 13.0% | 10.0% | 6.9% | 12.8% | 16.7% | 20.1% | 16.7% |
| | Slightly disagree | 20.0% | 19.6% | 20.3% | 21.1% | 21.7% | 18.0% | 18.9% | 21.1% | 20.2% | 19.6% | 23.2% | 22.5% | 16.7% | 13.8% | 18.2% | 26.0% | 30.9% | 33.3% |
| | Strongly disagree | 50.2% | 51.2% | 49.4% | 28.8% | 45.6% | 63.3% | 55.8% | 43.2% | 55.4% | 46.5% | 49.1% | 52.3% | 58.3% | 67.7% | 59.4% | 43.3% | 32.2% | 22.6% |
| | Don't know/not applicable | 11.8% | 10.6% | 12.8% | 16.8% | 10.8% | 10.6% | 10.0% | 12.3% | 9.0% | 10.1% | 8.5% | 6.8% | 10.2% | 11.6% | 4.8% | 8.0% | 7.4% | 9.5% |

## 4. Discussion

The 2020 Canadian Adult Obesity Clinical Practice Guidelines outline that the pillars of effective, evidence-based obesity treatment include cognitive behavioral therapy, pharmacotherapy and bariatric surgery. These pillars address some of the underlying causes of obesity and help to support health behavior modifications such as nutrition and physical activity as part of a comprehensive obesity management approach. Our findings indicate that many patients living with obesity and receiving care for related chronic diseases are not receiving adequate referral to these treatments. Only 9.2% of all respondents reported receiving medically supervised obesity treatment and of the individuals who reported discussing obesity with their provider, more than 30% indicated that they did not receive any treatment recommendations at all. Further, of the respondents who reported discussing obesity with their healthcare provider, less than half indicated that discussion touched on the evidence-based treatments included in the CPGs. This could point to lack of awareness of current guidelines and evolving obesity science by providers or the hesitancy to approach a sensitive issue such as obesity with the perception of limited time and a lack of effective treatment options from the perspective of the health professional [11,12]. This combined with previous studies measuring access to obesity management in primary care in Canada [8,9] mean Canadians living with obesity and related chronic diseases are not likely to experience obesity management as outlined in the CPGs.

Most patients living with obesity-related chronic diseases access care from their primary care providers. However, obesity discussions and diagnosis in primary care are infrequent, particularly amongst patients living with mental health conditions. Very few patients with anxiety and depression report receiving a referral for obesity management. This is inconsistent with the Canadian CPGs, which recommend individuals living with obesity and co-occurring mental illness should receive behavioural therapy in combination with a multi-modal treatment approach to manage obesity [19].

Patients with diabetes, MAFLD, PCOS, hypertension and CVD are more likely than others to have discussed obesity with their primary care providers. This could be because screening for metabolic syndrome is recommended in most patients with obesity [20,21].

However, obesity diagnosis and treatment are still lacking. While access to obesity management varies by obesity-related disease, prescription medication, exercise advice and nutritional advice are most commonly received. This finding is consistent with previous research showing the most common advice from primary care physicians is a general "eat less and move more" approach to obesity management [20,21]. Compared to previous Canadian studies, there appears to be some improvement in obesity management advice from primary care providers, since more people with obesity reported being offered obesity medications in keeping with recommendations from the CPGs.

Patients with diabetes reported receiving diabetes care from their primary healthcare providers, with only 18% accessing multidisciplinary healthcare teams. Previous studies have shown that only 32% of patients with diabetes report receiving all four recommended diabetes care components (HbA1c test, urine protein test, dilated eye exam, feet checked) in primary healthcare settings [22]. These findings reveal there is room for improving integrated chronic disease care across Canada.

Compared to a previous Canadian study [11], our findings do suggest an increased public awareness that obesity is a chronic disease as defined in the CPGs. This may be related to the extensive public engagement via high media coverage and dissemination activities for these guidelines, as well as heightened discussion of emerging treatments in media and social media.

The study also demonstrates that although most respondents agreed that obesity is a chronic disease, most appear to feel solely responsible for managing their obesity consistent with previous Canadian research [11]. However, women and those under 35 years of age were less likely

**Table 6**
Obesity management advise for health treatments or medical procedures.

| | | Total | Sex | | Age | | |
|---|---|---|---|---|---|---|---|
| | | | Men | Women | <35 | 35–54 | 55+ |
| | | 2506 | 1163 | 1332 | 459 | 960 | 1087 |
| **Q18: Have you ever been told to lose weight in order to receive a healthcare treatment or procedure?** | **(Net) Told to lose weight** | 26.2% | 27.9% | 24.7% | 34.9% | 29.5% | 19.7% |
| | **Yes** | 9.7% | 10.8% | 8.8% | 12.9% | 11.5% | 6.8% |
| | **It was suggested but not required** | 16.5% | 17.0% | 15.9% | 22.0% | 18.0% | 12.9% |
| | **No** | 72.1% | 70.5% | 73.6% | 62.3% | 69.0% | 79.0% |
| | **I'm not sure/can't recall** | 1.7% | 1.6% | 1.7% | 2.8% | 1.6% | 1.3% |
| | | **Total** | **Sex** | | **Age** | | |
| | **Individuals who have been told to lose weight in order to receive a healthare procedure** | | **Men** | **Women** | **<35** | **35–54** | **55+** |
| | | 657 | 324 | 329 | 160 | 283 | 214 |
| **Q19. Did a healthcare provider offer you information or discuss any of the following with you?** | **Physical activity** | 52.5% | 54.6% | 50.8% | 51.9% | 55.1% | 49.5% |
| | **Nutrition** | 52.4% | 53.7% | 51.1% | 51.9% | 55.8% | 48.1% |
| | **Obesity medications (pharmacotherapy)** | 15.7% | 15.7% | 15.5% | 16.3% | 20.1% | 9.3% |
| | **Behavioural therapy/psychological support** | 11.6% | 12.7% | 10.6% | 17.5% | 13.4% | 4.7% |
| | **Bariatric surgery** | 11.3% | 11.7% | 10.9% | 11.9% | 13.8% | 7.5% |
| | **Other** | 0.6% | 0.9% | | | | 1.9% |
| | **I was not provided with useful information or referrals when advised to lose weight for healthcare treatment** | 21.3% | 17.0% | 25.2% | 14.4% | 17.3% | 31.8% |
| | **I don't know/refusal** | 0.6% | | 1.2% | 0.6% | 0.7% | 0.5% |
| | **(Net) Any** | 78.1% | 83.0% | 73.6% | 85.0% | 82.0% | 67.8% |
| **Q20 Did your healthcare provider explain how your weight would impact the outcomes of the specific healthcare treatment?** | **Yes** | 55.6% | 57.1% | 54.1% | 53.1% | 57.6% | 54.7% |
| | **No** | 29.8% | 30.2% | 29.5% | 41.3% | 26.5% | 25.7% |
| | **I don't know/can't recall** | 14.6% | 12.7% | 16.4% | 5.6% | 15.9% | 19.6% |
| **Q21: Did your healthcare provider refer you to an obesity management program?** | **Yes, I was referred** | 25.0% | 29.0% | 21.0% | 35.6% | 30.7% | 9.3% |
| | **It was discussed but I was not referred** | 27.1% | 30.9% | 23.7% | 37.5% | 28.6% | 17.3% |
| | **No, I have never been referred** | 47.9% | 40.1% | 55.3% | 26.9% | 40.6% | 73.4% |

to perceive obesity was their responsibility to manage alone. This suggests that targeted interventions among men and older individuals may be warranted.

Consistent with previous studies, patients living with obesity continue to perceive weight bias, stigma, and discrimination in healthcare settings, particularly women and individuals living with mental health conditions. However, the percentage of respondents who perceive disrespectful treatment from their healthcare providers may be an underestimate. While only 21.8% of respondents strongly agree or slightly agree that they are treated with less respect and/or feel judged by healthcare providers because of their weight, more than half (78,3%) of respondents also strongly agree or slightly agree that it is their responsibility to manage their obesity. These data points combined may reflect high levels of internalized weight bias in this Canadian sample, as has previously been observed in other Canadian studies [11,23] Attributing obesity to behavioural factors (i.e. eating unhealthy and exercising too little) contributes to the belief that obesity is a condition within an individual's control. This belief is a fundamental driver of weight bias (e.g. negative attitudes and beliefs about weight), including internalized weight bias (i.e. negative attitudes and beliefs about one's own weight). Individuals who have more internalized weight bias may believe that judgmental practices from their healthcare professionals are deserved. In other words, people who blame themselves for their own obesity may not perceive as much weight stigmatizing/judgmental practices/behaviours from healthcare providers. More research is needed to understand patients' weight stigma experiences in the context of health services delivery for obesity-related chronic diseases.

Patients with anxiety and depression tend to be less satisfied with the obesity care they receive, specifically with misdiagnosis and treatment delays. These phenomena highlight the need for interventions to reduce obesity and mental illness stigma, including education and training for primary care professionals and specialists to support patients living with the dual challenge (and related stigma) of obesity and mental illness, a conclusion borne out in prior studies [3,24,25].

More research is needed to understand barriers to providing evidence-based obesity treatment in primary care settings among patients living with obesity and obesity-related chronic diseases, especially among those with mental illness and infertility. Standardized data on obesity treatments within existing chronic disease programs are needed to monitor obesity care gaps and to increase the proportion of people with obesity receiving recommended care.

This study's limitations include its reliance on self-reported measures such as weight and a respondent pool strongly skewed toward Caucasians (85% of completed responses), which may limit generalization to other equity-deserving populations. Tracking experiences in obesity care across race, ethnicities and other sociodemographic domains are also needed. Using a web-based survey may also result in a sampling bias that over-represents younger, computer-literate, educated respondents. Further stratification of data based on the degree of obesity (obesity class I, obesity class II, obesity class III) may also provide important relevant insights not identified in this sample particularly around patient experiences with weight bias in healthcare. Future research should aim to identify if there are differences in the experiences of individuals living with obesity based on disease severity.

## 5. Conclusion

This robust cross-sectional study surveyed Canadians with obesity and co-existing chronic illnesses to understand patient perceptions on access and quality of obesity care. Broadly effective, evidence-based obesity care remains elusive. This varies and is often magnified based on the underlying chronic disease diagnoses and demographics. There is perceived stigma as well as reduced quality and access to care. This highlights the urgent need to implement standardized and integrated care for patients with obesity, particularly as effective treatments are increasingly available. Optimal care requires agreement and collaboration between and among healthcare providers, policy makers, payers, and patients. Significant work is needed to better support the millions of Canadians living with obesity and co-existing chronic diseases. Future research is necessary to develop and evaluate patient-centered obesity care; a qualitative study with select survey respondents was conducted and findings will be published in the near future.

## CRediT author statement

The concept and methodology of this submission was by Ian Patton, Ximena Ramos Salas, Brad Hussey, Mary Forhan, Pam Hung, Al Martin, Lisa Schaffer and Candace Vilhan. Statistical analysis and data curation and first draft writing was performed by Ian Patton, Ximena Ramos Salas, Brad Hussey. Megha Poddar, Sanjeev Sockalingam, Laurie Twells, Hassan Mir, Mary Forhan, Pam Hung, Al Martin, Lisa Schaffer and Candace Vilhan all reviewed, edited and approved the final submission.

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## Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Ian Patton reports a relationship with Novo Nordisk Inc that includes: consulting or advisory and travel reimbursement. Ian Patton reports a relationship with Boehringer Ingelheim Canada Ltd that includes: consulting or advisory. Megha Poddar reports a relationship with Novo Nordisk Canada Inc that includes: consulting or advisory and speaking and lecture fees. Megha Poddar reports a relationship with Bausch Health Companies Inc Canada that includes: consulting or advisory and speaking and lecture fees. Megah Poddar reports a relationship with Eli Lilly and Company that includes: consulting or advisory and speaking and lecture fees. Megah Poddar reports a relationship with Boehringer Ingelheim Canada Ltd that includes: speaking and lecture fees. Megah Poddar reports a relationship with Johnson & Johnson Consumer Inc that includes: speaking and lecture fees. Megha Poddar reports a relationship with Antibody Solutions Inc that includes: speaking and lecture fees. Brad Hussey reports a relationship with Obesity Canada that includes: consulting or advisory. Ximena Ramos Salas reports a relationship with Obesity Canada that includes: consulting or advisory.

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