

Results of the ACTION-IO survey in Chilean patients with obesity and health care providers

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ABSTRACT

Background: Most of the Chilean population has overweight or obesity. The ACTION-IO survey identified the perceptions, attitudes, and barriers to effective obesity care in people with obesity (PwO) and healthcare professionals (HCPs). **Aim:** To report the results of the survey in Chile. **Material and Methods:** An online survey was conducted in 11 countries. In Chile, eligible PwO were adults with a body mass index ≥ 30 kg/m². Eligible HCPs were physicians involved in direct patient care. **Results:** The survey was completed by 1,000 PwO and 200 HCPs in Chile. Seventy four percent of PwO and 95% of HCPs agreed that obesity was a chronic disease. Most PwO (79%) assumed responsibility for their own weight loss, while 47% of HCPs considered weight loss to be the sole responsibility of their patients. Both 82% of PwO and 97% of HCPs believed that lack of exercise was a key barrier to weight loss. Sixty six percent of PwO and 58% HCPs noted that the cost of weight management medications, programs, and services was another barrier. Compared with HCPs, more PwO felt that genetic factors prevented weight loss (26 and 44% respectively). Few HCPs (19%) thought that their patients were motivated to lose weight, while 55% of PwO reported being motivated. Most (70%) PwO had discussed their weight problem with their HCP in the past 5 years, and of those that had not, 89% want their HCP to start a discussion about weight. **Conclusions:** Chilean data reveal misconceptions among PwO and HCPs about obesity and highlights the need to improve education about its biologic background and clinical management.

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Key words: Health Personnel; Obesity; Perception.

Resultados de la encuesta ACTION-IO en pacientes con obesidad y profesionales de la salud chilenos

Antecedentes: La población chilena tiene una alta prevalencia de sobrepeso u obesidad. La encuesta ACTION-IO, realizada en personas con obesidad (PcO) y profesionales de la salud (PdS), identificó las percepciones, actitudes y barreras para lograr un efectivo manejo de la obesidad. **Objetivos:** Informar los resultados de la encuesta en Chile. **Material y Métodos:** Se realizó una encuesta on-line en 11 países. En Chile, las PcO elegibles fueron adultos con un índice de masa corporal ≥ 30 kg/m² y los PdS eran médicos que realizaban atención directa de pacientes. **Resultados:** En Chile, la encuesta fue completada por 1000 PcO y 200 PdS. Un

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Declaration of interests

A. Cuevas reports personal fees from Abbott, Novo Nordisk, Teva Pharmaceutical Strategic Centre for Obesity Professional Education (SCOPE) of the World Obesity Federation and a SCOPE International Fellow.

R. Alonso has nothing to disclose.

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D. Montt has nothing to disclose.

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74% de las PcO y 95% de los PdS consideraron que la obesidad es una enfermedad crónica. La mayoría de las PcO (79%) asumieron su total responsabilidad en la pérdida de peso, mientras que el 47% de los PdS consideraron que la pérdida de peso era responsabilidad exclusiva de los pacientes. Un 82% de las PcO y 97% de los PdS estimaron que la falta de ejercicio era una importante barrera para la pérdida de peso. Además, las PcO (66%) y los PdS (58%) refirieron que el costo de los programas, medicamentos y otros servicios constituyen barreras para el control del peso. Un 44% de las PcO y un 26% de los PdS consideraron que factores genéticos dificultaban la baja de peso. Solo el 19% de los PdS pensaban que sus pacientes estaban motivados para perder peso, mientras que el 55% de las PcO afirmaron estar motivados. La mayoría de las PcO (70%), había discutido el problema del peso con algún PdS en los últimos cinco años. De aquellas que no lo habían hecho, el 89% deseaba entablar una conversación sobre el peso con algún PdS. **Conclusiones:** Los datos chilenos revelan percepciones y creencias discordantes entre PcO y PdS sobre la obesidad, destacando así la necesidad de mejorar la educación sobre su base biológica y manejo clínico.

Palabras clave: Obesidad; Percepción; Personal de Salud.

Obesity is a global epidemic with a high burden of disease and increasing health-related costs¹⁻³. It is considered a complex chronic disease, and contributors to the global rise in prevalence of obesity are multifactorial including genetics, physiology, behavior, environmental, and socio-economic, among others^{4,5}. The disease is associated with a variety of complications including type 2 diabetes, hypertension, cardiovascular events, chronic kidney disease, musculoskeletal disorders, and cancer⁶, and is a key risk factor for vulnerability to COVID-19⁷. In Chile, the latest national health survey reported that 74% of the population has overweight or obesity, which is the highest among Organisation for Economic Co-operation and Development (OECD) countries³.

Lifestyle interventions and behavioral therapy are recommended as first lines of treatment for people with obesity (PwO)⁸⁻¹⁰; however, treatment strategies based on promoting healthy eating habits and exercise often result in modest weight loss^{11,12}, and long-term weight regain is frequent due to the metabolic adaptation to weight loss^{4,6}. Furthermore, in routine practice, PwO often receive suboptimal care due to the challenges with managing obesity including less time available to provide counselling¹³. This is demonstrated by low rates of obesity diagnosis, discussions, and management¹³⁻¹⁷.

Public health interventions implemented to

decrease obesity in Chile include food labelling (foods high in calories, saturated fat, sodium, or sugar have precautionary labels)¹⁸, school-based health programs³, and programs that advocate a holistic approach to a healthy lifestyle¹⁸. Despite the availability of evidence-based guidelines, and public health interventions, the prevalence of obesity continues to rise in both adults and children¹⁹. To improve obesity care and treatment, a better understanding of the perceptions, beliefs, and behaviors of both healthcare professionals (HCPs) and PwO and identification of the local barriers are required.

The objective of the ACTION IO study was to identify the perceptions, attitudes, behaviors, and barriers to effective obesity care across PwO and HCPs. The primary results from the global ACTION-IO dataset have been reported previously²⁰. Here we report the results from the ACTION-IO survey of PwO and HCPs in Chile.

Patients and Method

Methodology for the ACTION-IO survey has been previously reported²⁰. Briefly, it was a cross-sectional, non-interventional descriptive study that collected data via an online survey among PwO and HCPs conducted in 11 countries. Participants in Chile completed the survey between June 4, 2018 and July 25, 2018. In Chile,

ethical approval was determined to be non-essential for a study of this nature based on regulatory standards and precedent. The study was sponsored by Novo Nordisk, conducted in accordance with the Guidelines for Good Pharmacoepidemiology²¹ and Declaration of Helsinki, and is registered with ClinicalTrials.gov (NCT03584191). All respondents provided electronic informed consent prior to initiation of the screening questions and survey. Additional details regarding study methodology in Chile can be found in the supplementary appendix.

Eligible PwO were ≥ 18 years old with a current body mass index (BMI) (based on self-reported height and weight) of ≥ 30 kg/m². Eligible HCPs had ≥ 2 years in direct patient practice, and had seen ≥ 10 PwO in the past month². The final PwO sample was subsequently weighted to represent demographic targets. HCP data were monitored for specialist types but were not weighted.

Results

Baseline characteristics and demographics

In Chile, the ACTION-IO survey was completed by 1,000 PwO and 200 HCPs (Table 1). The mean age of PwO was 38 years, 62% were female, and the majority had Class I obesity (body mass index [BMI] 30.0-34.9 kg/m²).

PwO and HCP perceptions of obesity

Overall, 74% of PwO and 95% of HCPs considered obesity to be a chronic disease. A majority of PwO (87%) and HCPs (86%) believed that obesity would have a substantial impact on overall health, and most PwO (85%) were concerned their current weight would have an effect on their health in the future. PwO (78-92%) and HCPs (82-99%) stated that the following conditions would have a large impact on overall health: diabetes, stroke, cancer, or chronic obstructive pulmonary disease (Figure 1).

Attitudes and barriers to weight loss

Most PwO assumed complete responsibility for their weight loss (79%) and considered lifestyle a key factor in their struggle with obesity (70%; Figure 2). Almost half of HCPs (47%) placed the responsibility for weight loss solely on PwO, and 80% agreed that their patients would need to alter

their lifestyles to lose weight. Few HCPs (19%) thought that their patients were motivated to lose weight, whereas 55% of PwO felt that they were motivated (Figure 2). Furthermore, few PwO (13%) responded that they had no plans for weight loss within the next 6 months.

Both PwO (82%) and HCPs (97%) believed that lack of exercise was the principal barrier to weight loss (Figure 3). Perception of other weight loss barriers differed between the subgroups. The next important barrier for PwO (71%) was cost of healthy food and for HCPs (95%) was unhealthy eating habits. Both PwO (66%) and HCPs (58%) felt that the cost of weight management medication, programs, and services was another barrier. More PwO (44%) compared with HCPs (26%) felt that genetic factors prevented weight loss.

Weight loss attempts and success

Most PwO (89%) reported that they had made at least one serious attempt at weight loss (Figure 4A). In contrast, HCPs considered that only 27% (mean) of their patients with obesity had made a serious weight loss attempt (Figure 4B). Although most PwO (72%) believed they could lose weight if they set their mind to it (Figure 2), they also reported struggling to lose weight and maintain long-term weight loss. Weight loss of $\geq 5\%$ body mass over the past 3 years was reported by only 36% of PwO; of those, only 24% were able to maintain the weight loss for ≥ 1 year (9% of all PwO). Weight loss of $\geq 10\%$ body mass over the past 3 years was reported by 18% of PwO.

Time to acknowledging obesity and obesity-related conversations with HCPs

The mean age that PwO began to struggle with their weight was 28 years. The mean time-interval between when PwO said they first started struggling with excess weight and when they first discussed weight with an HCP was 4 years (Figure 5A). The majority of PwO (89%) would like their HCP to initiate a discussion about weight with them. Many PwO (70%) reported discussing their weight with their HCP in the past 5 years (Figure 5B). Furthermore, 42% of PwO who had a weight conversation with an HCP reported initiating the conversation themselves. HCPs reported discussing weight with 76% of their patients with obesity and that 28% of the time a patient initiated the conversation. A patient having obesity-related

Table 1. Sample demographics and characteristics

	PwO	HCPs
Survey invitations sent, n	57,511	1,376
Survey response rate, n (%)	11,518 (20%)	393 (29%)
Eligibility rate, n (%)	1,652 (15%)	252 (79%)
Completion rate, n (%)	1,000 (83%)	200 (98%)
Mean completion time, minutes	36	50
	PwO (n = 1,000)	HCPs (n = 200)
Mean age, years (range)	38 (18-75)	39 (27-73)
Gender, n (%)		
Male	382 (38)	108 (54)
Female	615 (62)	92 (46)
Other	3 (< 1)	–
BMI classification, n (%)		
Respondents	1,000 (100)	180 (90)
Underweight or healthy range (< 25 kg/m ²)	–	111 (62)
Overweight (25-29.9 kg/m ²)	–	59 (33)
Obesity Class I (30-34.9 kg/m ²)	681 (66)	9 (5)
Obesity Class II (35-39.9 kg/m ²)	201 (22)	–
Obesity Class III (≥ 40 kg/m ²)	118 (12)	1 (1)
Number of comorbidities among PwO, n (%)		
0	183 (18)	
1	202 (20)	
2	223 (22)	
3	150 (15)	
≥ 4	242 (24)	
HCP category, n (%)		
PCP (General practitioner)		100 (50)
Specialist		100 (50)
Diabetologist/endocrinologist		22 (22)
Obstetrician/gynecologist		25 (25)
Nutritionist		3 (3)
HCP obesity expertise, n (%)		
Sees 50% or more of patients for obesity management		101 (51)
Received advanced formal training in treatment of obesity		63 (32)
Considers self to be an expert in obesity/weight loss management or works in obesity service clinic		42 (21)
Fulfills all above criteria		22 (11)

All N sizes for PwO are from unweighted data. Demographic percentages (age, gender, education) also are from unweighted data. All non-demographic percentage results are for PwO weighted data. HCP data were not weighted, therefore N sizes and percentages are all unweighted data for HCPs. Comorbidities that Chilean PwO were diagnosed with by an HCP were: depression/anxiety (39%); high cholesterol (34%); hypertension (31%); pre-diabetes (23%); stomach or intestinal problems (18%); osteoarthritis (14%); type 2 diabetes (12%); polycystic ovary syndrome (10%); obstructive sleep apnea (9%); liver disease (8%); eating disorder (5%); cardiovascular diseases (5%); metabolic syndrome (4%); Cancer (4%); infertility (2%); other (11%); none of these (18%). BMI Body mass index; HCP Healthcare professional; PCP Primary care physician; PwO People with obesity.

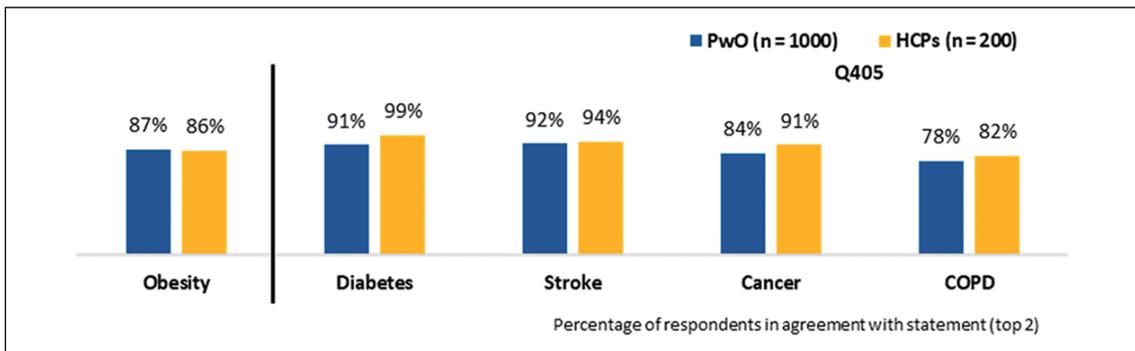


Figure 1. Impact of health conditions on overall health. Agreement was rated on a Likert scale of 1-5, with responses of 4 and 5 coded and reported as agree. Abbreviations: COPD, chronic obstructive pulmonary disease; HCP, healthcare professional; PwO, person with obesity; Q, question.

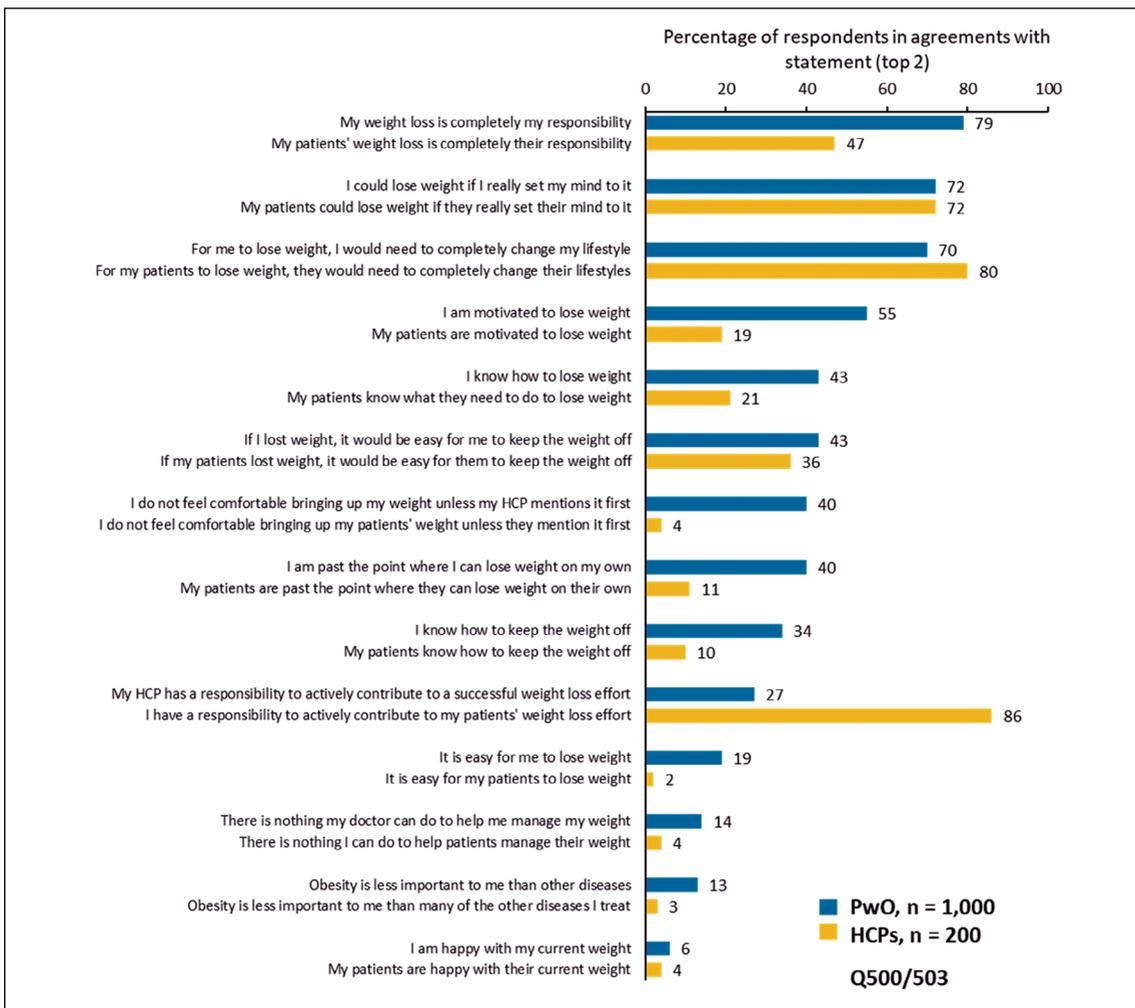


Figure 2. Attitudes towards obesity. PwO and HCP agreement with statements concerning attitudes towards obesity in Chile. Agreement was rated on a Likert scale of 1–5, with responses of 4 and 5 coded and reported as agree. HCPs = yellow; PwO = blue. HCP Healthcare professional; PwO People with obesity; Q, question.

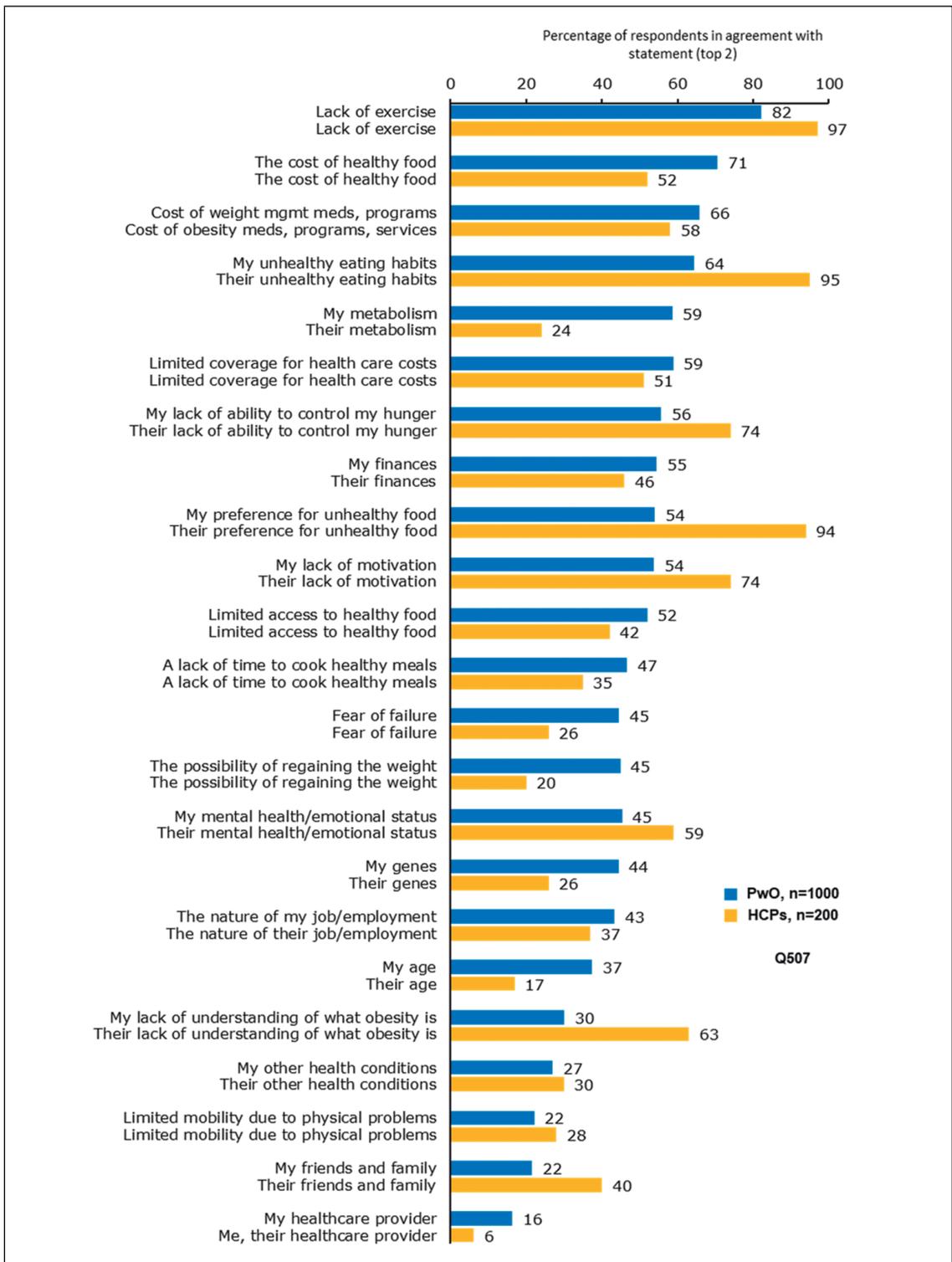


Figure 3. Weight loss barriers. Agreement was rated on a Likert scale of 1-5, with responses of 4 and 5 coded and reported as agree. Abbreviations: HCP, healthcare professional; PwO, person with obesity; Q, question.

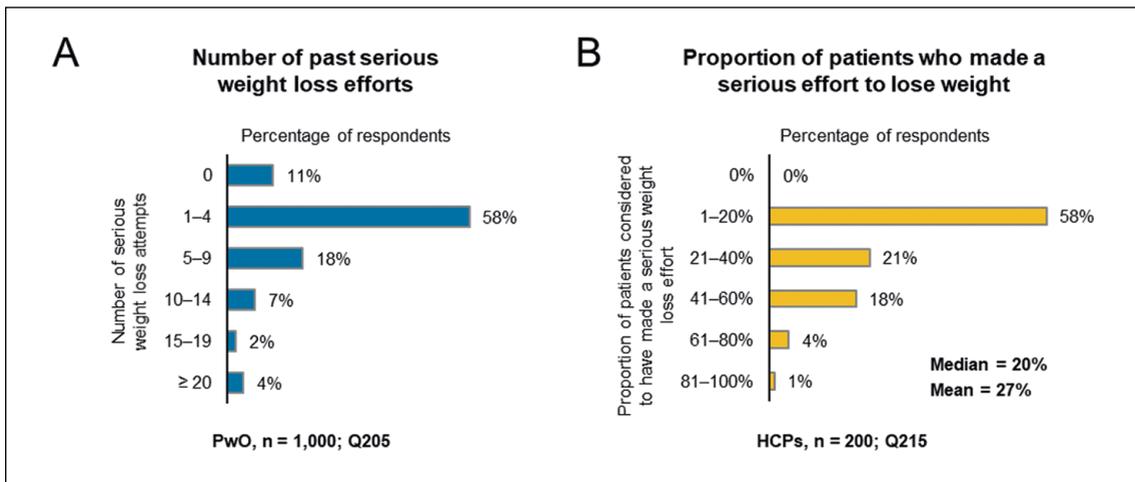


Figure 4. Weight loss attempts and results of intervention in Chile. (A) Number of past serious weight loss efforts reported by PwO. (B) Proportion of patients who HCPs considered to have made a serious effort to lose weight. HCPs = yellow; PwO = blue. HCP Healthcare professional; PwO People with obesity; Q, question.

comorbidities was the main reason HCPs cited for initiating a weight management conversation (80%).

HCPs informed 89% of their patients that they had a diagnosis of obesity. Fewer than half of PwO (41%) who had discussed their weight with an HCP had a follow-up appointment/call scheduled (29% of all PwO; Figure 5B). However, nearly all of PwO with a scheduled follow-up appointment/call reported attending or planning to attend the appointment (96%). HCPs reported scheduling follow-up appointments with 35% of their patients with obesity to discuss weight and said that 48% of their patients kept these follow-up appointments either always or most of the time.

PwO attitudes towards obesity-related conversations with HCPs

At least 80% of PwO liked or would like their HCP to bring up weight during their appointments, and 46% of PwO said conversations with their HCP about weight management were either very or extremely helpful. A similar proportion of PwO (53%) reported positive types of feelings after discussing their weight with their HCP, with 27% feeling motivated afterwards (Figure 5C). However, 51% of PwO reported negative types of feelings after a weight discussion, although only 3% reported feeling offended (Figure 5C).

For PwO, the top reason HCPs cited for not discussing weight management with their HCP was a lack of financial means to support a weight loss effort (51%; Figure 6). In contrast, the top reason HCPs cited for not discussing obesity with a patient was the perception that the patient was not interested in losing weight (84% HCPs vs 3% PwO; Figure 6). Additionally, 67% of HCPs responded that limited appointment time or feeling rushed was a factor in not having a weight loss conversation (Figure 6).

Weight loss goals

When asked to set a target weight as an outcome of a weight loss effort, 49% of PwO would choose an ambitious target of 11–20% body weight loss (overall mean 20%). Similarly, PwO reported a mean target of 19% body weight loss from HCPs. The most frequent methods for managing weight recommended by HCPs and as recalled by PwO who discussed weight with HCPs were general improvements in eating habits (63% HCPs vs 52% PwO) and general increases in physical activity level (67% HCPs vs 35% PwO). The most effective methods of weight management found by both HCPs and PwO who made weight loss efforts were general increases in physical activity (87% HCPs vs 59% PwO) and improvements in eating habits (82% HCPs vs 58% PwO). More HCPs felt that visiting a dietitian was effective when

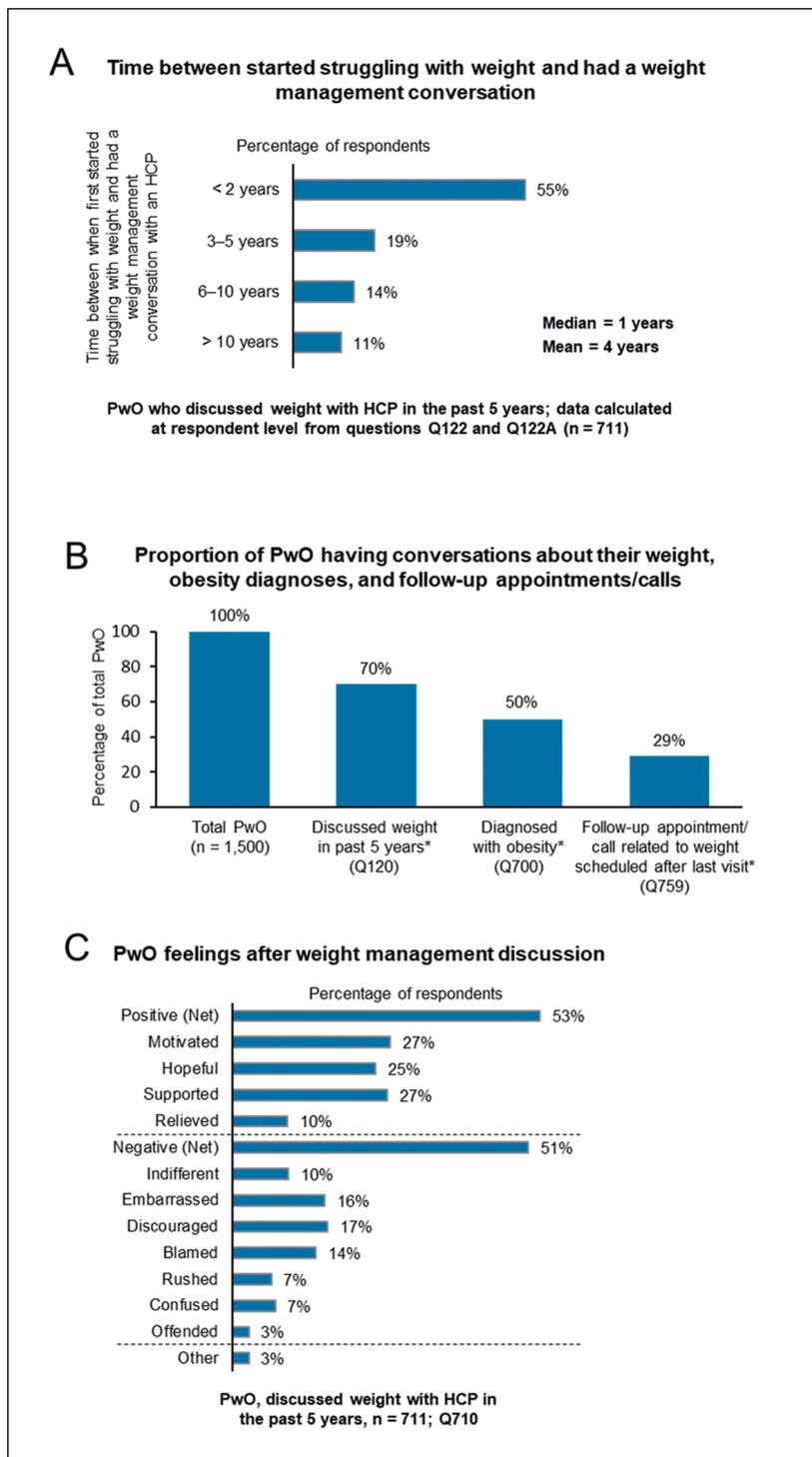


Figure 5. Discussions of weight management and outcomes in Chile. (A) Proportion of PwO who after struggling with their weight then discussed their weight with an HCP in the past 5 years. (B) Proportion of PwO having conversations about their weight with an HCP in the past 5 years, obesity diagnoses, and follow-up appointments/calls. (C) Feelings PwO reported having after discussing their weight with an HCP. HCP Healthcare professional; PwO People with obesity; Q, question.

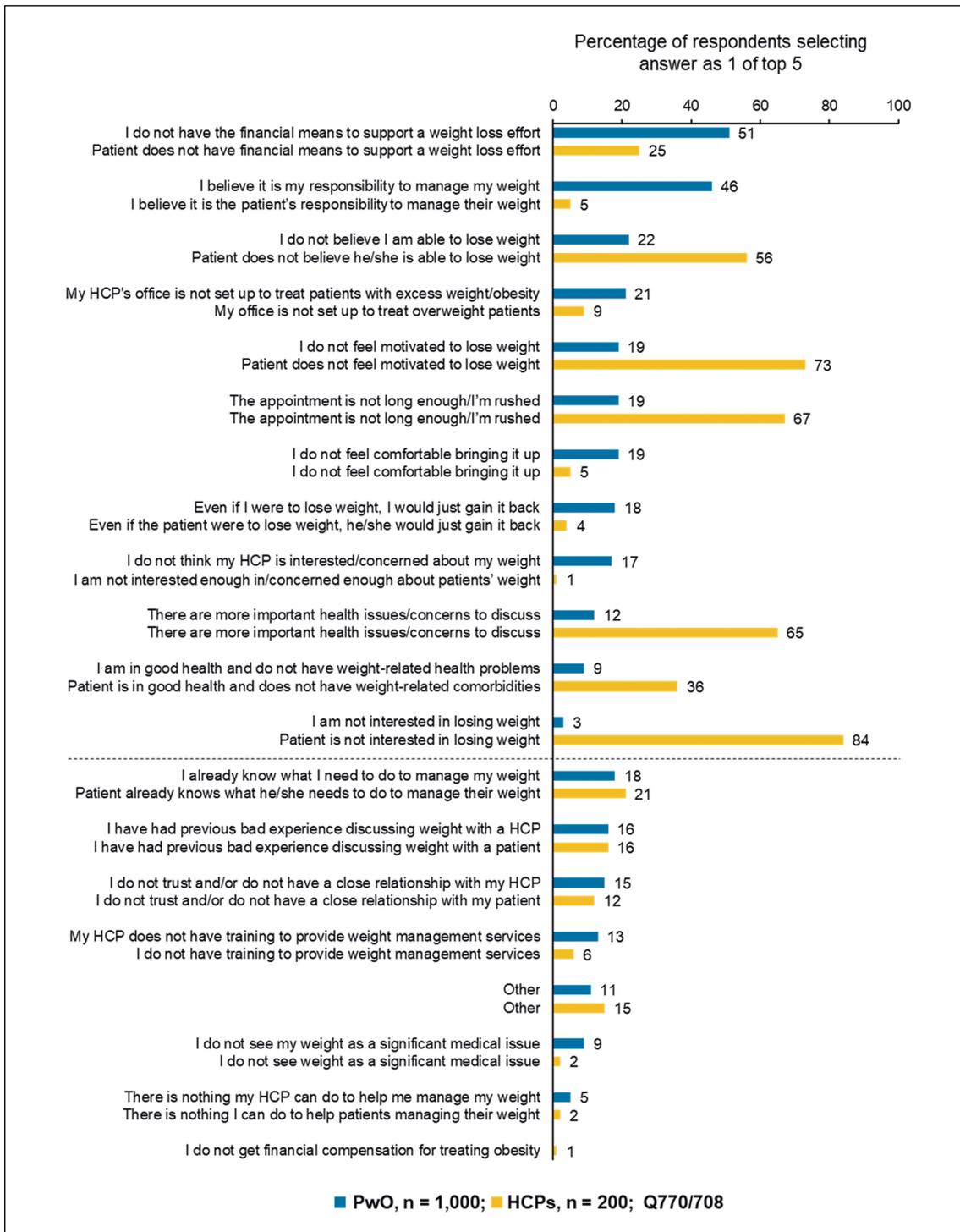


Figure 6. Reasons PwO gave for not discussing weight with an HCP (blue) and reasons HCPs gave for not discussing weight with patients (yellow) in Chile; reasons with at least 10% difference in response between PwO and HCPs are above the dotted line; all others are below the dotted line. Respondents selected their top 5 reasons from the list of options. HCP Healthcare professional; PwO People with obesity; Q, question.

compared with PwO who had tried this method of weight loss (65% HCPs vs 27% PwO). However, many PwO (60%) found prescription weight loss medication to be effective, in contrast to the few HCPs (25%) who believed in the efficacy of this method for long-term weight loss, which may stem from concerns on long-term safety (84%) and side effects associated (83%) with prescription weight loss medications. While behavior therapy or psychotherapy as methods to manage weight were discussed infrequently by HCPs and PwO who had weight-related conversations with their provider (4% HCPs vs 22% PwO), 32% of PwO who tried these methods found them effective and 42% of HCPs felt that they were effective methods for long-term weight management. Most HCPs ($\geq 80\%$) felt that physicians who specialize in obesity or nutrition, or a non-physician dietitian, either were or would be the most effective in helping PwO achieve their weight loss goals. Many PwO (65%) considered increasing the number of HCPs who manage obesity as a chronic disease as an important factor in improving the success of weight loss efforts.

Discussion

The Chilean ACTION-IO results highlight misperceptions among PwO and HCPs about obesity; these constitute barriers for diagnosis and evidence-based clinical management. The negative attitudes of HCPs towards PwO that have been reported previously in ACTION US¹⁷, ACTION Canada²², the ACTION-IO global cohort²⁰, and other studies^{23,24} were also found in this study, demonstrating the importance of eradicating the misperception that PwO are neither interested nor motivated in losing weight. Both PwO and HCPs emphasized lifestyle factors were significant barriers to weight loss, potentially contributing to PwO's assumption of full responsibility for weight loss. That most PwO assume complete responsibility for their weight loss was a common result found in this and other ACTION-IO country cohorts (Spain²⁵, Italy²⁶, South Korea²⁷, Japan²⁸), and in ACTION US¹⁷ and ACTION Canada²². This misperception could represent an additional barrier to effective weight management since weight stigma, including self-directed stigma whereby PwO blame themselves, has been associated with

unhealthy eating, exercise avoidance, increased sedentary behavior, and poor mental health²⁹. More PwO than HCPs regarded biological factors, including genetics, as contributors of obesity, demonstrating a need for HCP education on the multifactorial^{4,5} etiology of obesity.

Most HCPs and PwO felt that PwO could lose weight if they set their mind to it, and both PwO and HCPs set unrealistic weight loss goals for PwO. Despite the majority of PwO having made at least one serious weight loss attempt, most PwO struggled to lose weight and maintain weight loss on their own as demonstrated by the low proportion of PwO who achieved and maintained 5% or 10% weight loss. Achieving and maintaining weight loss can be difficult in the long-term due to the metabolic adaptation to weight loss^{4,6}. Guidelines suggest a realistic goal of 5-10% weight loss can be expected with comprehensive multicomponent lifestyle therapy (diet, exercise, and behavior therapy)⁹. In line with HCPs' perceptions of the barriers to weight loss, general improvements in diet and exercise were the most recommended and perceived efficacious methods of long-term weight loss by HCPs. While behavioral therapy and psychotherapy were addressed infrequently by HCPs when discussing methods of weight loss with their patients, almost half felt that those were effective methods for long-term weight control. Alternatively, prescription weight loss medication was the most commonly reported effective weight loss method that PwO had tried.

Since lack of weight discussions between HCPs and PwO^{16,17} and lack of obesity diagnosis^{14,17} have previously been identified as barriers to effective treatment, it was encouraging that versus other ACTION-IO cohorts, the Chilean data showed that a high proportion of PwO had discussed excess weight or losing weight with their HCP (70% versus 24-67%)^{20,25-28} and Chilean HCPs reported diagnosing a higher proportion of their patients with obesity (89% versus 62-75%, except Italy 83%)^{20,26-28}. In addition, Chilean PwO reported shorter gaps between when they first began struggling with their weight and when they first had a weight management conversation with their HCP (mean 4 years versus mean 6 years, except South Korea mean 1 year)^{20,25-28}. However, it is important for HCPs to understand that Chilean PwO reported beginning to struggle with their weight at a younger age (mean age 28 years versus

mean age 33-39 years; ACTION-IO study steering committee, personal communication)^{25,27} so early intervention is important.

In contrast to the other ACTION-IO cohorts^{20,25-28}, ACTION US¹⁷, and ACTION Canada²², the financial burden of weight loss and a healthy lifestyle was a considerable obstacle for PwO in Chile. The top reason for not discussing weight with an HCP in Chile was a lack of financial means, selected by more than half of PwO; in comparison, less than a third of PwO in the other ACTION studies (range 21-30%) cited this reason^{17,20,25-28}. Cost of healthy food, weight loss medications and programs, and limited coverage of healthcare were important weight loss barriers reported by PwO. Out-of-pocket expenditures are a known barrier to effective medical care, and Chile has one of the highest proportions for out-of-pocket healthcare expenditures in the OECD³⁰. Additionally, 3.1% of Chilean households experienced catastrophic healthcare expenditures in 2017³⁰. In the future, these results should be taken into consideration when developing strategies to manage obesity in Chile, especially as it is unlikely that PwO will succeed in a weight loss attempt if they cannot afford to fully participate.

The limitations of this study were identical to those corresponding to the global ACTION-IO including the cross-sectional design, and the self-reported information provided by PwO and HCPs, which depended on accuracy of participant recall. The strengths of the study were the large number of participants, the scientific quality of the survey questions, and the screening criteria applied to participants to provide a cohort representative of the general Chilean population.

In conclusion, the Chilean ACTION-IO results suggested that most PwO recognized the impact of excess weight on health and despite significant financial barriers, they were making serious efforts to lose weight but had limited success alone. HCPs need to recognize that PwO were motivated and interested in losing weight, which should encourage them to initiate weight management discussions. Our study indicates an opportunity for improving obesity management through multiple strategies: 1) further education of both PwO and HCPs concerning realistic weight loss targets; 2) providing education on the biological basis of obesity⁵ and evidence-based guidelines for effective treatment including the

value of a multidisciplinary approach with possible adjunctive medical and surgical treatment⁸⁻¹⁰; 3) challenging the misperception that obesity is easily controllable by PwO^{23,29}; 4) increasing the number of follow-up appointments and referrals to specialists and/or evidence-based treatment programs; and 5) further education on how prescription medication therapy can assist PwO in their weight management.

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