Beyond Blame

Toward person-centred care for patients living with obesity

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CHAPTER 1

General introduction

Obesity

Obesity is a chronic relapsing disease impacting over one billion people – or one in every eight persons – worldwide.[1,2] Among adults, global obesity rates have more than doubled since 1990. In the Netherlands, overweight currently affects more than 50% of adults, with approximately 16% of Dutch adults living with obesity.[3]

Obesity is characterized by an abnormal or excessive accumulation of adipose tissue (fat mass), in the body that can impair health. Based on the Body Mass Index (BMI), a rough estimation of body fat derived by dividing a person's weight in kilograms by the square of their height in meters, obesity is commonly divided into three classes: Class I obesity: 30 to 34.9, Class II obesity: 35 to 39.9, and Class III obesity: 40 and above.

For most, the development of obesity results from complex interactions between on the one hand genetics and on the other hand environmental and behavioural factors.[4] The consequences of obesity can be wide ranging, with profound implications for both physical and mental health, and overall a lower quality of life.[5-7] Furthermore, obesity acts as a gateway to a wide range of other diseases, including type 2 diabetes, cardiovascular diseases, musculoskeletal disorders, several types of cancer, and mental illness.[5,8,9]

Care for patients living with obesity

Current healthcare systems are struggling to provide effective treatment to patients living with obesity. Clinical guidelines for the treatment of obesity are often not tailored to individual circumstances, focusing mainly on addressing acute medical problems and advising weight loss by means of lifestyle adjustments. However, there are often additional factors at play beyond lifestyle issues, such as mental health factors, medication-related factors, socio-economic factors, or rarer underlying causes such as specific endocrine, hypothalamic, or monogenic diseases.[4,10-13] Failing to address any underlying factors, this simplistic approach often leads to unsatisfactory treatment experiences and outcomes among patients.[14,15]

Person-centred care

PCC may hold promise for improved care experiences and better outcomes among patients living with obesity. The Institute of medicine describes PCC as "care that is respective of patients' preferences, needs and values and ensures that patient values guide all clinical decisions".[16] Through their extensive research into patients' needs and concerns, the Picker Institute identified eight dimensions that most affect patients' healthcare experiences: respect for patients' preferences, physical comfort, the coordination of care, emotional support, access to care, the continuity of care, the provision of information and education, and the involvement of family and friends.[17,18] Table 1 presents a description of these dimensions.

Table 1. Dimensions of person-centred care.

Patient preferences	Treating patients with dignity and respect and demonstrating sensitivity to their preferences, needs and values. The complex nature of obesity requires tailored treatment planning in which underlying factors are considered and specific patient needs are addressed.[4,10] A focus on overall quality of life, rather than the achievement of weight loss alone is important.[7]
Physical comfort	Supporting patients' physical comfort. Obesity is associated with a wide range of physical discomforts and health issues, which may need consideration and addressing.[5,19]
Coordination of care	Collaborating across disciplines within a single organization. Comprehensive care for patients living with obesity often necessitates multidisciplinary efforts, necessitating integration and alignment among professionals.
Emotional support	Supporting patients' mental health. Obesity is associated with a significant psychosocial burden; patients may experience mental health problems and face weight-related stigmatization and discrimination.[6,11,20]
Access to care	Access to appropriate health services. Patients living with obesity often need access to a range of health services to effectively manage their condition, prevent worsening or the development of complications, and improve their overall health outcomes.
Continuity of care	Collaborating across organizations. Providing effective care for patients living with obesity often extends beyond single organizations, making coordinated efforts and smooth transitions between care providers essential.
Information and education	Providing patients with appropriate information and education about all aspects of their care. Opportunities to discuss weight with patients are frequently overlooked and healthcare advice given to patients living with obesity is often of poor quality.[21]
Family and friends	Involving family and other key individuals in treatment. The social context can be of key influence on the development of obesity.[22] Furthermore, involving family and friends in patients care is known to benefit health outcomes, healthcare quality and the overall care experiences of patients.[23]

Research into the effectiveness of PCC has clearly demonstrated that shaping care according to these dimensions is associated with improved patient outcomes, such as greater patient satisfaction and overall well-being.[24] However, PCC in the context of obesity has received little research attention, resulting in a lack of insight into the experiences and outcomes among patients living with obesity.

Outline for this dissertation

The main objective of this dissertation was to examine the potential of PCC in enhancing care and support for patients living with obesity.

The following research aims were addressed:

1. to explore the views of patients living with obesity on PCC
2. to validate an instrument for the assessment of PCC among patients living with obesity
3. to investigate the role of weight stigma in PCC for patients living with obesity
4. to identify the relationship of PCC to well-being and satisfaction with care among patients living with obesity

To better accommodate patients living with obesity, it is important to gain insight into their views regarding PCC and identify the aspects of PCC that are most important. In **Chapter 2** five distinct patient views are identified using Q-methodology, highlighting the need for tailored care in obesity treatment. To assess the delivery of PCC among patients living with obesity, validated instruments are needed. Based on a survey among Dutch adults living with obesity, in **Chapter 3** the validation of the 40-item and 24-item short version of the Person-Centred Obesity Care (PCOC) instrument for patients living with obesity is described, which may be used for the assessment of PCC, both in clinical and research settings. In **Chapter 4** an overview of perceived weight stigma in healthcare settings among patients living with obesity is presented and relationships of perceived weight stigma with patient characteristics and PCC are described, using a cross-sectional approach. The findings presented in this chapter emphasize the significant role of weight stigma in shaping patients' healthcare experiences. PCC is associated with improved patient outcomes but its impact on individuals living with obesity is not well-established. In **Chapter 5** the PCC experiences of patients living with obesity are explored and positive cross-sectional relationships of PCC to patients' well-being and satisfaction with care are presented. Finally, in **Chapter 6** an overall discussion of the main findings of the dissertation is presented, in which relevant theoretical and methodological considerations are reviewed and recommendations for practice, policy, and future research are given.

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CHAPTER 2

Views of patients with obesity on person-centred care: a Q-methodology study

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ABSTRACT

Introduction

To better accommodate patients with obesity, the adoption of a person-centred approach to healthcare seems to be imperative. Eight dimensions are important for person-centred care (PCC): respect for patients' preferences, physical comfort, the coordination of care, emotional support, access to care, the continuity of care, the provision of information and education, and the involvement of family and friends. The aim of this study was to explore the views of patients with obesity on the relative importance of the dimensions of PCC.

Methods

Q methodology was used to study the viewpoints of 21 patients with obesity on PCC. Respondents were asked to rank 31 statements about the eight dimensions of PCC by level of personal significance. Using by-person factor analysis, distinct viewpoints were identified. Respondents' comments made while ranking were used to verify and refine the interpretation of the viewpoints.

Results

Five distinct viewpoints were identified: 1) 'someone who listens in an unbiased manner', 2) 'everything should run smoothly', 3) 'interpersonal communication is key', 4) 'I want my independence', and 5) 'support for myself and my loved ones'. Viewpoint 1 was supported by the largest number of respondents and explained the most variance in the data, followed by viewpoint 3 and the other viewpoints, respectively.

Conclusion

Our findings highlight the need for tailored care in obesity treatment and shed light on aspects of care and support that are most important for patients with obesity.

Patient Contribution

Our sample consisted of patients. Patients were also involved in the development of the statement set through pilot testing.

INTRODUCTION

Over the past four decades, the global prevalence of obesity has nearly tripled.[1,2] The World Health Organization defines obesity as an excessive accumulation of body fat that poses a threat to health.[3] Living with obesity seriously impairs physical and psychosocial functioning, resulting in a reduced quality of life.[4] Obesity also increases the risk of developing other serious health conditions, such as type 2 diabetes, cardiovascular diseases, several types of cancer and many other diseases.[5] Consequently, obesity, and especially severe obesity, is associated with increases in healthcare utilisation and expenditures, as well as substantial societal costs due to productivity losses.[6,7] Although many health institutions have recognised it as a chronic disease,[8] healthcare systems seem poorly prepared to meet the needs of patients living with obesity. Clinical guidelines for the treatment of these patients are often too simplistic, focusing merely on weight loss instead of the improvement of overall health and well-being.[9] As a result, individual circumstances, including contributing factors and underlying diseases, are often overlooked.[10] Furthermore, patients with obesity often experience weight-related stigma and discrimination in healthcare, which can affect the quality of their care and their treatment outcomes.[11,12] For instance, some healthcare professionals view patients with obesity more negatively than other patients and spend less time treating them.[13] Healthcare professionals may also be insufficiently equipped or educated to perform standard medical procedures on patients with obesity.[14]

To better accommodate patients with obesity, the adoption of a person-centred approach in which care is tailored to the individual and individuals' preferences, needs and values are respected seems to be imperative.[15] Person-centred care (PCC) can be seen as a paradigm shift in healthcare that has been gaining broad support with the increasing interest in the quality of care.[16,17] The Picker Institute distinguishes eight dimensions that are important for PCC: respect for patients' preferences, physical comfort, the coordination of care, emotional support, access to care, the continuity of care, the provision of information and education, and the involvement of family and friends.[18,19] An overview of these dimensions can be found in Table 1.

PCC has been associated with improved patient outcomes in various healthcare settings,[26] including the provision of care to patients with obesity.[27] However, the relative importance of the different aspects of PCC seems to vary among patient groups.[28,29] Although aspects of care that may be important specifically for patients with obesity have been identified, the significance of the eight dimensions of PCC for patients with obesity has not been assessed. The gaining of insight into the aspects of

PCC that are most important to this patient group is a vital step toward improved care provision, and consequently improved quality of care and patient outcomes. Thus, the aim of this study was to explore the views of patients with obesity on the relative importance of the dimensions of PCC.

Table 1. The eight dimensions of person-centred care.

Patients' preferences	Treating patients with dignity and respect and demonstrating sensitivity to their preferences, needs and values. When treating patients with obesity, a focus on overall quality of life, rather than the achievement of weight loss alone, is important.[20]
Physical comfort	Physical comfort should be supported, in the case of obesity by offering pain management if needed and attending to problems with physical activity. Buildings should be comfortable and provide enough privacy. Specifically, a lack of privacy during weight assessment has been identified as a barrier to the engagement in care of some patients with obesity.[21]
Coordination of care	Coordination and integration of care among healthcare professionals within organisations is critical. All professionals should be well informed, and each patient should have a primary contact person.
Emotional support	Living with obesity is associated with a great psychosocial burden, and patients with obesity may experience issues such as depression, anxiety, stigma and discrimination.[22]
Access to care	Includes quick and easy appointment scheduling, accessible buildings and access to adequate medical equipment. Not all currently used medical equipment is designed to accommodate patients with larger bodies, which may restrict quality of care and contribute to stigmatization of patients with obesity.[23]
Continuity of care	Includes smooth transitions between healthcare providers and the transferring of relevant patient information between organisations. As patients with obesity often deal with comorbid conditions, several providers in primary and specialty care settings may be involved in their care.[24]
Information and education	Patients should receive appropriate information and education about all aspects of their care. Accumulating evidence links low health literacy to excess body weight.[25] To support patients with obesity to be in charge of their own care, the provision of understandable information and education is essential.
Family and friends	The involvement of family and friends may also play an important part in caring for patients with obesity, as family members and friends may act as caregivers or contributors to the disease. When applicable, PCC also involves paying attention to the roles of loved ones in obesity treatment.

METHODS

Q methodology

To examine the views of patients with obesity on what is important for PCC, the mixed-method Q methodology was used. Q methodology may be best described as an inverted factor analytic technique for the systematic study of subjective viewpoints.[30] Q-methodology research aims to identify and discern views on a specific topic, rather than determine the prevalence of these viewpoints. In a Q-methodology study, respondents are asked to rank a set of statements about the study subject. Using by-person factor analysis, in which the respondents are treated as variates, distinct viewpoints are identified. Q methodology has been used to examine the views of patients and professionals, such as patients with multimorbidity,[28] those with end-stage renal disease,[29] and professionals and volunteers providing palliative care,[31] on what is important for PCC.

Respondents

As our goal was to obtain a wide breadth of views on what is important for PCC for patients with obesity, we recruited respondents varying in terms of gender, age, educational background, marital status and health literacy. Eligible patients were over the age of 18 years and had body mass indices (BMIs) of at least 40 kg/m^2, which defines severe obesity. This obesity threshold was chosen because it is associated with the most healthcare utilisation and greatest health risks.[5,6] Practitioners working in the internal medicine departments of four hospitals in the area of Rotterdam, the Netherlands, informed patients about the study. In the Netherlands, access to non-urgent hospital or specialty care requires referral from a general practitioner (GP).[31] Recruitment through hospitals thus ensured that respondents were familiar with both specialty and primary care (e.g. GP visitation), characteristic of care provision for patients with severe obesity.[6,24] From April to October 2021, 26 eligible patients gave consent to be contacted to receive detailed study information and schedule an appointment. Of the 26 patients that were contacted, three were unable to schedule appointments and two could not be reached by the researcher, which led to the inclusion of 21 patients in the study. This sample size was considered sufficient following Watts and Stenner’ advice for Q-methodological research.[30]

Statements

To capture the full range of possible views on a specific topic, the statements in a Q-methodology study should have good coverage of the subject of interest.[30] The eight dimensions of PCC provided by the Picker Institute were used as a conceptual framework for this study.[18,19] First, statements from previous studies in which the same framework was used to investigate the views of patients or professionals on what is important for PCC were collected.[28,29,31] Further statement selection was informed by various sources covering the care and support needs of patients with obesity, such as scientific articles[23,33] and clinical guidelines,[34] as well as the autobiographies and social media posts of individuals living with obesity. In an iterative process, all members of the research team, including an internist-endocrinologist who is a professor in the field of obesity and biological stress research and involved in clinical care provision to patients with obesity, generated, reviewed and revised statements. A final set of 31 statements was constructed and pilot tested with three respondents fulfilling our inclusion criteria. Based on the pilot testing results, a few adjustments to the phrasing of some statements were made (see Appendix A). No substantive change was required, and no missing statement was revealed. The final statement set is provided in Table 2. Because no substantial change was made to the statement set, the pilot data were included in the analyses conducted for this study.

Data Collection

Data collection took place in an online environment using video conferencing software; the process lasted approximately 60 minutes per respondent. One researcher guided the respondents' ranking of statements. All sessions were audio recorded with respondents' informed consent. First, the respondents answered basic demographic questions and filled in the Set of Brief Screening Questions (SBSQ) as an assessment of health literacy.[35] Low health literacy was defined as an average SBSQ score of 2 or lower. Next, the respondents were asked to carefully read the statements about aspects of PCC, displayed on the screen one by one in random order using the HtmlQ software,[36] and to sort them into 'important', 'neutral', and 'unimportant' piles. The researcher then asked the respondents to rank the statements in each pile according to their personal significance using a forced sorting grid with a scale ranging from +4 (most important) to -4 (most unimportant; Figure 1). While ranking, the respondents were encouraged to speak out loud about their views; after completing the ranking, they were asked to elaborate on their placement of the statements. All comments made by the respondents during and after the ranking process were transcribed verbatim.

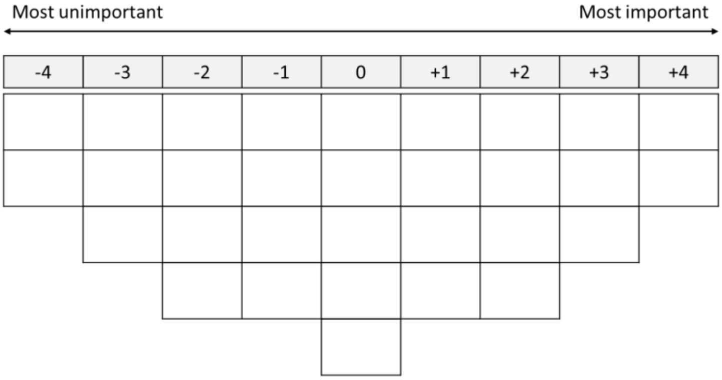

Figure 1. Sorting grid

Statistical Analysis

To identify distinct viewpoints on what is important for PCC for patients with obesity, the rankings of the 21 respondents were intercorrelated and subjected to by-person factor analysis using the PQMethod software.[37] Clusters in the data were identified using centroid factor extraction and varimax rotation. Potential factor solutions were evaluated by considering the total of associated respondents at a significance level of 0.05 (i.e. a factor loading of ±0.42), upholding a minimum of two associated respondents per factor, and the percentage of explained variance. Fulfilment of the Kaiser–Guttman criterion, which suggests that only factors with eigenvalues of 1.0 or more be retained, was examined.[38,39] To finalise our decision on the number of factors to retain, qualitative data (i.e. comments made by the respondents during and after ranking) were considered. For each factor, or viewpoint, the rankings of associated respondents were merged by calculating weighted averages, thereby forming a ‘factor array’ that depicted how a typical respondent holding that viewpoint would rank the statements. As our aim was to gain a broad understanding of respondents’ diverse viewpoints, our interpretation was based on these factor arrays. For each viewpoint, statements ranked as most important (+3 and +4) and most unimportant (-3 and -4) and distinguishing statements (ranked significantly higher or lower than in other viewpoints) were inspected. The qualitative data were used to verify and refine our interpretation of the viewpoints.

Table 2. Statements and factor arrays.

		Factor/viewpoint[a]				
#	Statement	1	2	3	4	5
Patient preferences						
1	Being treated with dignity and respect	+4	+1	+2	+2	+4
2	Unbiased healthcare professionals	+3	0	+1	-1	-3
3	A focus on my quality of life	0	-2	-2	+3	-2
4	Being involved in decisions	+3	+2	0	0	+3
5	Taking into account my preferences	+1	-4	-3	-1	+1
6	A focus on what I can do myself	-1	-1	0	+2	-2
Physical comfort						
7	Attention to my physical comfort	+1	0	-2	+2	0
8	Attention to problems with physical activity	0	+3	-1	+4	-2
9	Comfortable waiting area and treatment rooms	-3	-3	-4	-3	+1
10	Sufficient privacy in the waiting area and treatment rooms	-2	-3	-1	-4	0
Coordination of care						
11	Well-informed healthcare professionals	+2	+2	+2	0	-1
12	Practitioners who coordinate care and advice properly	+2	+4	+4	0	-2
13	Knowing where to go with questions	-2	0	0	+1	-3
Emotional support						
14	Healthcare professionals who really listen to me	+4	0	+2	0	0
15	Attention to my emotions	+2	+1	-4	-3	-1
16	Attention to the influence of my health on my life	+3	+1	-2	+2	-1
Access to care						
17	Available and accessible healthcare	-2	+3	-1	+1	-1
18	Sufficient time during appointments	+1	-4	+4	+1	+2
19	Availability of appropriate resources and facilities	0	-2	+1	-2	+2
20	That money is not a problem	-1	0	+2	0	-4
21	Being able to schedule an appointment quickly and easily	-1	-1	-3	+1	-4
Continuity of care						
22	Being well informed during a referral	0	+2	+3	-3	-1
23	That my information is transferred properly with a referral	+1	+4	+1	-2	+3
24	Knowing where to go for care and support after treatment	-3	+1	+1	+4	+2
Information and education						
25	Being well informed about all aspects of my care	+2	-2	+3	+3	+4
26	Easy access to my own medical data	-2	-2	0	+2	+2
27	A good explanation with all information	0	+2	+3	-2	0
28	Assistance with healthy living	-1	+2	0	-2	-4

Table 2. Continued.

#	Statement	Factor/viewpoint[a] 1	2	3	4	5
Family and friends						
29	That my loved ones can participate in the decision-making	-4	-2	-3	-1	+1
30	Attention to questions and needs of my loved ones	-3	-2	-2	-1	0
31	Help from healthcare professionals to get support from my loved ones	-4	-3	-1	-4	+3

[a]Viewpoints: 1, ‘someone who listens in an unbiased manner’; 2, ‘everything should run smoothly; 3, ‘interpersonal communication is key’; 4, ‘I want my independence’; 5, ‘support for myself and my loved ones’.

RESULTS

Twenty-one respondents completed the ranking (Table 3). The analysis revealed five factors, or distinct viewpoints, that together explained 48% of the variance in the data. Data from 17 (81%) of the 21 respondents were associated significantly with one of the five viewpoints ($p \leq 0.05$). Data from two respondents were associated with two viewpoints each, and those from two respondents were not associated significantly with any factor. All viewpoints were supported by at least two respondents; viewpoints 1 and 3 were supported by 7 and 4 respondents, respectively. Viewpoint 5 had an eigenvalue of 0.95, just below the Kaiser-Guttman cut-off of 1.0, but the qualitative data indicated that it was meaningful and distinguishable from the other viewpoints. The degree of correlation between viewpoints was low to moderate ($r = -0.15$ to 0.37). The factor arrays for the five viewpoints are provided in Table 2.

Viewpoint 1: ‘someone who listens in an unbiased manner’

Viewpoint 1 accounted for the most explained variance (17%) in this study. The PCC dimensions most characterising this viewpoint are ‘respect for patients’ preferences’ and ‘emotional support’. Central to this viewpoint was respondents’ desire to be seen and heard like any other patient without obesity. These patients wish to be treated with dignity and respect (statement 1, +4). Respondent 8 stated ‘*You just want to be taken seriously. We are all human, that includes people who are overweight*’. They often feel misunderstood because healthcare professionals blame all of their health issues on their weight. [‘*You fight against a judgment that you cannot get out of. They do not even examine me. Right off the bat they go: “I can refer you for a stomach reduction”*’ (Respondent 18)]. To get the care and support that suits their needs, these patients believe that unbiased healthcare professionals (statement 2, +3) who genuinely listen (statement 14, +4) are crucial. Respondent 13 stated ‘*That they look further than your* *weight, that is the most important thing to me. That it is not like everything that is wrong with you is because of your weight*'. They want healthcare professionals to provide emotional support and acknowledge the impact of their health problems on their life [statement 16, +3; '*I have three small children and it is really hard for me to do things with them just because I am overweight*' (Respondent 6)]. They seek recognition for the complexity of their condition. Respondent 8 stated '*Recognition that obesity is a disease and it should be treated that way is very important*'.

To remain in charge of their care, these patients want to be involved in decisions (statement 4, +3), while leaving friends and family members out of the decision-making process [statement 29, -4; '*No, I do not think that is important. I decide what I want*' (Respondent 6)]. Respondents holding this viewpoint ranked all statements covering the 'involvement of friends and family' dimension as least important.

Table 3. Demographic characteristics of respondents (*n* = 21)

Characteristic	N	Percentage
Gender (female)	17	81%
Age		
20–29	8	38%
30–39	4	19%
40–49	5	24%
50–59	3	14%
60–67	1	5%
Marital status		
Married	9	43%
Single	6	29%
Living together with partner	6	29%
Education		
Primary school	1	5%
Secondary school	5	24%
Vocational education	10	48%
Higher education	5	24%
Health literacy (low)	4	19%

Viewpoint 2: 'everything should run smoothly'

Viewpoint 2 accounted for 8% of the explained variance. Patients holding this viewpoint seek well-coordinated care and advice (statement 12, +4) and the proper transfer of information in case of referral (statement 23, +4). Respondent 3 stated '*The doctors have to agree on what is the best option for me*'. Furthermore, they desire easily accessible care with short wait times [statement 17, +3; ‘*That it will not be a lengthy process before I can be helped*’ (Respondent 16)].

These patients would also like healthcare professionals to consider their physical comfort by attending to problems with physical activity [statement 8, +3; ‘*Stairs are very much a no go for me and it is important that they know that*’ (Respondent 16)]. However, they consider other aspects of physical comfort, such as waiting areas and treatment rooms that are comfortable (statement 9, -3) or provide enough privacy (statement 10, -3), to be less important. Respondent 16 stated ‘*When I weighed 127 kilos at my heaviest, the seats were a bit uncomfortable, but I do not have that problem now*’.

In contrast to those holding viewpoint 1, patients holding viewpoint 2 do not mind if care does not align with their own preferences [statement 5, -4; ‘*I do not think that your preferences should be taken into account in a hospital or with a doctor because as human beings we can have a lot of preferences that do not really apply*’ (Respondent 16)]. They emphasise their own responsibility for getting the care they need [‘*Right now in the Netherlands, you get the right care. As a patient, you also need to be somewhat well-informed yourself*’ (Respondent 16)]. They believe that being well prepared avoids the need for lengthy appointments (statement 18, -4). Respondent 3 stated ‘*If I have a question, I just ask it. And if I did not understand something or if I forgot something […] I can just call and ask*’.

Viewpoint 3: ‘interpersonal communication is key’

Viewpoint 3 accounted for 10% of the explained variance. It focuses on the exchange of information among all involved parties. Patients holding this viewpoint want to know what to expect, and thus value information about all aspects of their care (statement 25, +3), including information about referrals (statement 22, +3), very highly [‘*Because I want to know where I stand, what will happen and what is needed*’ (Respondent 10)]. They believe that good explanation is needed to properly understand information (statement 27, +3). Respondent 7 stated ‘*I often feel a bit overwhelmed during consultations. That things are being said for which I was not fully prepared. I sometimes think afterwards, “have I understood everything that has been said?”*’. These patients believe that having sufficient time during appointments is prerequisite for the proper exchange of information (statement 18, +4). They often leave consultations feeling poorly because of unanswered questions. [‘*You just notice that they are under time pressure, that it should all happen quickly. You hardly have time for questions, so you do not leave with a good feeling*’ (Respondent 10)].

Similarly to those holding viewpoint 2, these patients value the coordination of care and advice among practitioners highly (statement 12, +4). They specifically dislike the conflicting of treatment plans with each other [‘*It is important that one practitioner also knows what the other practitioner is doing and that it fits together*’ (Respondent 7)].

In contrast to those holding viewpoint 1, these patients prefer that care and support are of an informative nature, rather than attending to emotions that they might be experiencing (statement 15, -4). Respondent 1 stated ‘*Things like quality of care are much more important to me than people sitting down to listen to emotions or something like that. To me, emotions and scientific correctness often clash*’. Similarly to those holding viewpoint 2, they do not mind if care does not align well with their preferences [statement 5, -3; ‘*For me it is really about that the care is good and that it is the best, even if I do not prefer it*’ (Respondent 1)].

Viewpoint 4: ‘I want my independence’

Viewpoint 4 accounted for 7% of the explained variance. The aim of remaining independent is central to this viewpoint. In contrast to those holding viewpoints 1–3, patients holding viewpoint 4 want to focus on what they can do on their own (statement 6, +2), as they believe that this will preserve their quality of life [statement 3, +3; ‘*I think it is important that I can and may continue to do a lot independently*’ (Respondent 17)]. In line with this focus, these patients want healthcare professionals to attend to their problems with physical activity (statement 8, +4). Respondent 17 stated ‘*I think it is very important to work on this [problems with physical activity] as much as possible and to expand what is possible to do myself*’.

Although these respondents seek independence, they value knowing where to go for care and support after treatment highly (statement 24, +4). They are willing to take the lead, provided that they know where they can go for support. Respondent 4 stated ‘*That you have a telephone number and that you can call them with questions or if anything is unclear. I find accessibility very important*’. To facilitate independence, they also prefer to be well informed about all aspects of their care (statement 25, +3) and appreciate easy access to their own medical data (statement 26, +2). However, these patients do not require good explanation of all information provided to them (statement 27, -2) as they have no difficulty understanding their medical data [‘*I have been walking in and out of hospitals for so long, most of it is self-evident*’ (Respondent 17)].

In contrast to those holding viewpoints 1–3, patients holding viewpoint 4 find other aspects of the ‘continuity of care’, such as being well informed during referrals (statement 22, -3) and the proper transfer of information upon referral (statement 23, -2) to be less important. They do not mind asking questions or re-sharing information with professionals [‘*I can also tell it myself and I can ask for everything I need and I always do that*’ (Respondent 4)].

Viewpoint 5: ‘support for myself and my loved ones’

Viewpoint 5 accounted for 5% of the explained variance. This viewpoint is distinguished by an emphasis on the supporting roles of family members and friends. Patients holding this viewpoint seek support from their loved ones and help from healthcare professionals in obtaining it [statement 31, +3; ‘*I am married and I want help from my husband because he really knows a lot about me*’ (Respondent 20)]. They also value their autonomy highly; they want to be informed about all aspects of their care (statement 25, +4) and involved in decisions (statement 4, +3). Respondent 20 stated ‘*I do not like them talking about me behind my back*’. Similarly to those with viewpoint 1, patients with viewpoint 5 consider being treated with dignity and respect (statement 1, +4) to be one of the most important aspects of PCC [‘*Everyone has the right to be treated with respect and receive proper care*’ (Respondent 5)]. They value comfortable waiting areas and treatment rooms (statement 9, +1) more than patients with other viewpoints, as they appreciate their personal space. Respondent 20 stated ‘*I do not think it is necessary that they sit right on top of me in treatment rooms*’.

Compared with patients with other viewpoints, those with viewpoint 5 consider some aspects of PCC to be out of reach, and thus rank them as less important. For example, they accept that money may be a problem sometimes [statement 20, -4; ‘*Money comes, money goes. It just makes some things a little easier, but if you do not have it, you do not have it*’ (Respondent 5)] and they believe that receiving treatment only from unbiased healthcare professionals is not realistic [statement 2, -3; ‘*It is not realistic because that [stigmatisation from healthcare professionals] happens, whether you like it or not*’ (Respondent 5)].

DISCUSSION

In this study, five distinct views on what is important for PCC for patients with obesity were identified. Patients holding viewpoint 1, ‘someone who listens in an unbiased manner’, want healthcare professionals to look beyond a patient’s weight. This viewpoint explained the most variance in the data and was supported by the largest number of respondents. Patients holding viewpoint 2, ‘everything should run smoothly’, seek care that is well coordinated and accessible. Patients holding viewpoint 3, ‘interpersonal communication is key’, prefer care of an informative nature. Patients holding viewpoint 4, ‘I want my independence’, are driven by the desire to remain independent. Finally, patients holding viewpoint 5, ‘support for myself and my loved ones’, seek help to involve their loved ones in their care. Our findings thus show that patients with obesity hold various views on what is most important in care and support. This diversity may be explained by the multifactorial nature of obesity,[10] which results in different care needs. Our results suggest that we cannot apply a single standard of care to patients with obesity, and reflect the importance of care that is tailored to each individual.

Although views on PCC varied among patients, ‘being treated with dignity and respect’ was deemed to be relatively important across viewpoints. This result is not surprising, as obesity is a highly stigmatised condition and many individuals living with it report having stigmatising healthcare experiences, such as disrespectful treatment.[40] Research suggests that higher patient BMIs are associated with lesser physician respect.[41] Although many respondents in our study reported stigmatising healthcare experiences, ‘unbiased healthcare professionals’ was not unequivocally ranked as important across viewpoints. Patients holding viewpoint 5 even ranked it as one of the least important aspects of PCC, but they explained this judgement as reflecting their belief that weight-related stigmatisation in healthcare is an unsolvable problem. Furthermore, some respondents with other viewpoints related ‘unbiased healthcare professionals’ strongly to ‘treatment with dignity and respect’, and for practical purposes chose to rank the former statement lower. This perspective has also been identified in research on patients’ views on weight stigmatisation in healthcare; patients with obesity agreed that a lack of physician respect results from such stigmatisation.[42]

Our results further show notable differences in views on the importance of emotional support. Patients with viewpoint 1 value such support highly, viewing it as fundamental for obesity treatment. In contrast, patients with viewpoint 3 do not want practitioners to attend to their emotions, although they acknowledge the emotional impact of their condition. Many individuals with obesity struggle with psychosocial issues, including psychiatric illness, low self-esteem, reduced quality of life and the internalisation of weight stigmatisation.[22,43] Thus, multidisciplinary obesity treatment often includes a focus on emotional well-being, which is suggested to have beneficial effects on health.[44,45] However, patients with some viewpoints prefer a pragmatic approach. These opposing views may pose a dilemma for healthcare professionals aiming to provide high-quality and holistic care to patients with obesity. Future research may clarify the emotional support needs of patients with obesity and the relationship of emotional support to treatment outcomes.

The involvement of family and friends was considered to be relatively unimportant across viewpoints in this study, except among patients with viewpoint 5, who seem to depend more on social support. Patients with viewpoint 1 strongly oppose the involvement of loved ones and prefer to make decisions individually. This perspective might be explained by the complexity of living with obesity, which only the patient can understand fully. These findings bring to light new questions about the extent to and manner in which family members and friends should be involved in obesity treatment. Social support has been shown to be beneficial in chronic illness management,[46] but literature on the involvement of family and friends in adult obesity treatment is inconclusive.

Limitations

Several potential limitations of this study should be considered. First, the sample of patients recruited for this study may seem to be small. However, it meets the requirements of Q methodology[30] and is similar to those of other studies.[28,47] Furthermore, consultation of literature revealed no evidence of a missing viewpoint. Additionally, the viewpoints identified in this study were recognised by a professor of obesity and biological stress research who is involved in the treatment of patients with obesity and indicated that no viewpoint was missing, based on many years of clinical experience. Furthermore, the representation of the male perspective in this sample might be limited due to the male-to-female ratio. However, a similar ratio is seen in patients seeking obesity care.[48] Second, at the start of the data collection period, respondents could only participate online due to COVID-19 pandemic precautions. Although we later offered the opportunity for face-to-face participation, this approach may have led to the underrepresentation of individuals with low health literacy, for whom digitalisation can be a barrier to engagement.[49] However, the views of individuals with low health literacy are represented in this study, as four respondents met this criterion. Finally, our study was conducted in the Netherlands, and the identified viewpoints may not represent the views of patients living in countries with different health systems. For example, because health insurance is mandatory in the Netherlands, every resident has basic access to care. Aspects of the 'access to care' dimension may thus be viewed differently in countries without universal healthcare. However, Dutch health insurance does not cover all obesity treatments. For instance, most weight reducing medications are not covered.

CONCLUSION

Five distinct views on what is important for PCC for patients with obesity were identified. The viewpoint 'someone who listens in an unbiased manner' was supported by the largest number of respondents. With these findings, we have begun to shed light on the communalities in the views of patients living with obesity on PCC. Our data shows that the views on what care and support should look like for patients living with obesity vary, stressing the need for tailored care in obesity treatment. We recommend further research to build on and expand our study's findings. In this study, we explored the views of patients living with severe obesity. Future studies might examine the views of patients living with lower classes of obesity and explore to what extent their views on PCC differ.

The views that are described in this paper provide valuable insight into the perspective of patients living with obesity on what is most important in care and support. Importantly, this knowledge helps us to understand what PCC provision for patients with obesity might entail, and may help organisations arrange care accordingly. For example, some patients may benefit greatly from a high level of emotional support, while others will respond better to care and support that is centred around patient education or self-management.

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APPENDIX

Table A1. Adjustments made to the statement set based on pilot testing (*n* = 3).

#	Original statement	Adjusted statement	Argumentation
2	Unbiased and unprejudiced healthcare providers	Unbiased healthcare providers	Removing repetitive words to shorten statement
3	A focus on my overall quality of life	A focus on my quality of life	Removing redundant words to shorten statement
6	A focus on my skills and competencies	A focus on what I can do myself	Replacement of difficult to understand words to clarify statement
10	Sufficient privacy	Sufficient privacy in the waiting area and treatment rooms	Specification of context to specify statement
16	Attention to the impact of my health on my life	Attention to the influence of my health on my life	Replacement of difficult to understand words to clarify statement
17	Proper availability and accessibility	Available and accessible healthcare	Specification of context to specify statement
18	Sufficient time	Sufficient time during appointments	Specification of context to specify statement
31	Help getting support from my loved ones	Help from healthcare providers to get support from my loved ones	Specification of context to specify statement

CHAPTER 3

Validation of the 40-item and 24-item short version of the Person-Centred Obesity Care instrument for patients living with obesity

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ABSTRACT

Introduction

Person-centred care (PCC) may hold promise for improved healthcare experiences and outcomes among patients living with obesity. A validated instrument to assess the delivery of PCC to patients living with obesity is however currently lacking. This study aimed to validate such an instrument. In this article, we describe the development and psychometric testing of the 40-item and 24-item short version of the Person-Centred Obesity Care (PCOC) instrument.

Methods

A total of 590 individuals living with obesity (BMI 33.4 ± 3.9) from a representative Dutch sample completed the 49-item PCOC instrument measuring the eight dimensions of PCC (patient preferences, physical comfort, coordination of care, emotional support, access to care, continuity and transition, information and education, and family and friends), and two measures of satisfaction with care. We performed confirmatory factor analyses to verify the factor structure of the instrument, and examined its reliability and validity.

Results

Fit indicators of the first model with all 49 items showed that the model left room for improvement (CFI < 0.90). A 40-item version was obtained with satisfactory-to-good fit (SRMR = 0.05, RMSEA = 0.06, CFI = 0.90). The instrument demonstrated good reliability, and the relationship between the PCOC and two indicators of satisfaction with care supported the validity of the scale. Shortening the instrument only further improved the fit indicators, resulting in the development of a 24-item short version (SRMR = 0.04, RMSEA = 0.05, CFI = 0.96), with similar results in terms of reliability and validity.

Conclusion

The 40-item PCOC instrument and the 24-item short version showed to be reliable and valid instruments for the assessment of PCC among patients living with obesity. Based on the results, the 40 and 24-item PCOC are promising tools that can be used by clinicians and researchers to explore PCC delivery for patients living with obesity.

INTRODUCTION

With over one billion individuals affected worldwide,[1] obesity has emerged as a major public health concern that increases healthcare utilisation and expenditures and impacts both physical and mental health.[2-4] As obesity rates continue to rise, health systems are struggling to provide effective treatment to patients living with obesity.[5] The complex relapsing nature of obesity, driven by a multitude of interconnected factors and intricate biological processes, requires thorough diagnostic evaluation, clinical assessment, and individualized intervention.[6-9] Yet, many clinical guidelines for obesity management and treatment are not tailored to individual circumstances. Instead, they focus solely on achieving weight loss, often through consideration of lifestyle-related factors, neglecting underlying factors and overlooking the broader goal of improving patients' overall health and well-being. This "one-size-fits-all approach" has had limited long-term success and is often associated with unsatisfactory outcomes among patients, suggesting a need for a different approach to obesity management that is better aligned with individual patient needs.[5,10,11]

In recent decades, a paradigm shift toward person (or patient)-centred care (PCC) has arisen in numerous medical fields.[12] As defined by the Institute of Medicine, PCC is "respectful of and responsive to individual patient preferences, needs and values".[13] Key dimensions of PCC are: 'respect for patient preferences, values and expressed needs', 'physical comfort', 'coordination of care', 'emotional support', 'access to care', 'continuity and transition of care', 'information and education', and 'involvement of family and friends'.[14,15] A detailed description of these dimensions and their relevance for patients living with obesity is presented in the supplementary material (Table S1).[16-32]

Research shows that shaping care according to the eight dimensions of PCC leads to improved outcomes for both patients and organizations.[33,34] For example, there is consistent evidence that when patients are actively involved in the decision-making process and treatment plans are tailored to their individual needs, it significantly increases their satisfaction with the care provided.[33] However, PCC for the management of obesity has received little research attention and the impact of PCC for patients living with obesity is not yet clear.[5,10] Furthermore, validated tools are lacking that enable the assessment of PCC and its eight dimensions among patients living with obesity.

PCC may hold promise for improved healthcare experiences and outcomes among those living with obesity. Based on previous research, improvements in the eight PCC dimensions are expected to lead to improved satisfaction with care and, ultimately, better clinical outcomes among patients. However, to investigate the potential benefits of PCC as an approach to the management of obesity, the development of validated instruments that assess the delivery of PCC to patients living with obesity is an essential first step. In this study, we aimed to validate such an instrument. This article describes the development and psychometric testing of the 40-item and 24-item short version of the Person-Centred Obesity Care (PCOC) instrument in terms of factor structure, reliability, and validity.

METHODS

Study design and participants

A representative sample of Dutch adults living with obesity were recruited through CentERdata's Longitudinal Internet Studies for the Social Sciences (LISS) panel. This panel represents a true probability sample extracted from households listed in the Dutch population register. At the time of data collection (July 2022), the panel included approximately 6500 individuals from around 4700 households. The panel adheres to the European "General Data Protection Regulation (GDPR)" and pertinent ethical guidelines. All panel members aged ≥ 18 years with a body mass index (BMI) ≥ 30 kg/m^2 (n = 896) were invited to participate in a survey about their healthcare experiences. This included experiences at the general practitioner, which is the first point of contact in getting healthcare in the Netherlands, as well as care provided by the hospital and other involved healthcare providers. The survey yielded a 82% (n = 732) response rate. BMI was based on participants' height and weight from the latest wave of a longitudinal health survey conducted annually by the panel. We cross-referenced outliers in the data, subsequently excluding five cases with inaccurate BMI values. To reduce the risk of response bias, the PCOC items were presented along with the option to answer 'I do not know/not applicable'. Participants who selected this option for all PCOC items were excluded (n = 130). Additionally, seven cases with unusually fast survey completion times were excluded, resulting in a final sample of 590 participants.

Measures

PCOC

The PCOC is based on the eight dimensions of PCC established by the Picker Institute, which were developed through extensive research exploring patients' needs and concerns.[14,15] The instrument builds on prior research, investigating the eight dimensions of PCC in hospital and long-term care settings, e.g.,[35-39]. Item selection and refinement was an iterative and thorough process, informed by insights from our prior research that explored the perspectives of patients living with obesity on the eight dimensions of PCC.[32] Additionally, we drew on a variety of other sources, including obesity literature and established clinical guidelines, e.g.,[6,8,40,41], the expert advice of a well-known internist-endocrinologist and professor in obesity and stress research, and the feedback of two individuals living with obesity. Agreement was reached on a final set of 49 items. The full set of items is presented in the supplementary material (Table S2). Participants were asked to rate the items on a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). Additionally, aiming to minimize potential response bias in the dataset, we offered participants the option to select 'I do not know / not applicable' for each of the items. Dimension scores were calculated by averaging the item scores within each dimension, provided that approximately two-thirds of the items were completed. An overall PCC score was determined for participants with at least five dimension scores, by averaging the scores across dimensions. All scores ranged from 1 to 5, with higher values indicating better PCC.

Satisfaction with care

Construct validity was determined by a 6-item version[42] of the Satisfaction with Stroke Care questionnaire[43] (SASC) and a rating of overall satisfaction with care on a 0-10 scale ('On a scale of 1 to 10, how satisfied are you with the care and support that was provided?'). Although the SASC was originally developed for stroke patients, it has evolved to assess satisfaction with care across diverse patient populations. Some minor adjustments were made to the items. The resulting items were: 'I have received all the information I want about the causes and nature of my health condition(s)', 'The healthcare professionals have done everything they can to improve my situation', 'I am satisfied with the type of care and support they have given me', 'I have had enough care and support', 'I am happy about the effects of the care and support on the progression of my condition(s)', and 'I am satisfied with the care and support that was provided'. Participants were asked to rate the items on a 4-point Likert scale from 1 (totally disagree) to 4 (totally agree), with higher mean scores (range 1–4) indicating greater satisfaction. The Cronbach's alpha value of the SASC in this study was 0.96, indicating excellent reliability.

Background characteristics

Data was obtained on participants' sex, age, marital status, education level and BMI. Additionally, chronic illnesses were assessed using a validated inventory of 10 conditions (e.g., diabetes, cardiovascular diseases, lung diseases) along with a blank space for unlisted chronic conditions.[44] Dummy variables were created to categorize marital status (living with a partner [0], single [1]), education level (low = primary or lower vocational, intermediate = secondary or intermediate vocational, high = higher vocational or university) and chronic illness (no chronic conditions other than obesity [0], one or more chronic condition other than obesity [1]).

Analysis

Data analyses were conducted using SPSS (version 29) and R (version 4.3.1). First, we applied descriptive statistics to characterize the study population in terms of sex, age, marital status, educational level, BMI, and chronic illness. Second, we determined the number of missing responses, mean and standard deviation for each of the PCOC items. Third, we performed confirmatory factor analyses to verify the factor structure of the PCOC. To account for missing data, primarily resulting from 'I do not know / not applicable' responses, we estimated the models using full information maximum likelihood (FIML) in R (*lavaan* package). Model fit was evaluated using Hu and Bentler's recommended cut-off criteria:[45]

1) Standardised root mean square residual (SRMR): values ≤ 0.10 and ≤ 0.08 indicate satisfactory and good fits, respectively.
2) Root mean square error of approximation (RMSEA): values < 0.08 and < 0.06 indicate satisfactory and good fits, respectively.
3) Comparative fit index (CFI): values ≥ 0.90 and ≥ 0.95 indicate satisfactory and good fits, respectively.

To improve model fit, item factor loadings and model modification indices were considered. Items with low factor loadings or modification indices of 10 or higher were considered for removal. The model was re-estimated after each removal to evaluate improvements in fit. Additionally, we explored the possibility for a short version of the instrument to reduce the response burden of filling out the questionnaire.

Fourth, we calculated Cronbach's alpha values to evaluate the internal consistency of the subscales and used inter-correlations to assess conceptual relatedness among (sub)scales. Finally, correlations of PCOC (sub)scores with two measures of satisfaction with care were analysed to examine the construct validity of the instrument. Given that previous research shows a clear link between PCC processes and increased patient satisfaction,[33] we expect PCOC (sub)scores to be positively related to the measures of satisfaction with care (the SASC and participants' ratings of overall satisfaction with care on a 0-10 scale). Correlations were classified as small (r ≈ 0.1), medium (r ≈ 0.3), or large (r ≈ 0.5).[46]

RESULTS

Table 1 depicts the descriptive characteristics of the study sample.

Table 1. Sample characteristics (*n* = 590).

	Range	Mean (standard deviation) or percentage
Sex (female)		57.1%
Age	18–92	59.22 (14.85)
Marital status (single)		34.2%
Education level		
Low		33.2%
Intermediate		36.6%
High		30.2%
BMI[1]	30–59	33.37 (3.88); 32 (31–35)
Chronic illness (other than obesity)[2]		60.2%

Abbreviations: BMI, body mass index. [1]Because of its positively skewed distribution, BMI is reported as mean (standard deviation); median (interquartile range). [2]Diabetes, cardiovascular diseases, heart failure, lung diseases, cancer, arthrosis, osteoporosis, chronic joint inflammation, depression, anxiety, or any unlisted chronic illness.

Model fit

Table 2 presents the results of the confirmatory factor analyses. While certain indicators of fit for the first model with all 49 items suggested good fit (SRMR and RMSEA both 0.06), the CFI was lower than desired with a value of 0.85. To improve model fit, item factor loadings and model modification indices were considered, resulting in a stepwise elimination of 9 items. Details on the 49-item PCOC version are included in the supplementary material (Table S2). The resulting 40-item PCOC instrument demonstrated a satisfactory-to-good fit (SRMR = 0.05, RMSEA = 0.06, CFI = 0.90).

Table 2. Model fit of the Person-centred Obesity Care (PCOC) instrument.

	RMSEA	CFI	SRMR
Model 1: 49 items	0.063	0.852	0.058
Model 2: final 40 items	0.059	0.895	0.051
Model 3: short version 24 items	0.045	0.958	0.040

After a satisfactory fit was achieved with the remaining items, we set out to explore the possibility of additional shortening to reduce the response burden, particularly in clinical settings. The same stepwise procedure was used, while ensuring that each of the eight PCC dimensions retained a minimum of three items. Shortening the instrument only further improved the fit indicators, resulting in the development of the

24-item short version of the PCOC instrument with three items for each of the dimensions (SRMR = 0.04, RMSEA = 0.05, CFI = 0.96).

PCOC item characteristics

Item characteristics of the 40-item PCOC instrument and the short 24-item version are reported in Table 3. All items had factor loadings exceeding 0.50 on their intended factors. Mean scores for items in the *access to care* dimension were the highest, with all but one of the items exceeding 4.0. Relatively high scores were also given within the dimension *patient preferences*, where all item means were at least 3.9. Mean scores for items in the *coordination of care* dimension were the lowest, with item means of 3.5 or lower. Other dimensions containing items ≤3.5 were *emotional support*, *information and education*, and *family and friends*.

While item non-response rates were minimal among respondents who filled in the questionnaire, ranging from 0 to 1%, a considerable number of participants opted for 'I do not know/not applicable' responses across dimensions. Notably, this response option was used most often for items related to *physical comfort* (26–60%), *emotional support* (31–52%), and *family and friends* (34–53%). Participants used the option least frequently for items related to *patient preferences* (6-23%) and *access to care* (8–26%). Missing value analysis in SPSS revealed that participants with one or more comorbid chronic illness were less likely to use the 'I do not know/not applicable' option compared to participants who listed no conditions other than obesity, suggesting that filling in the items is more likely when people are (more) frequent users of care. Additional analyses revealed no significant differences in satisfaction scores between participants with and without comorbid conditions.

Internal consistency and inter-correlations

In Table 4, Cronbach's alpha values for the 40-item PCOC instrument are presented, alongside (sub)scale associations. The PCOC demonstrated good to excellent internal consistency, with Cronbach's alpha values of 0.87 or higher for all subscales and the overall instrument. Additionally, all (sub)scales showed medium to large positive inter-correlations, indicating conceptual relatedness (all $p < 0.001$). Results using the 24-item short version of the PCOC instrument were similar.

Table 3. Person-centred Obesity Care (PCOC) item characteristics.

Item	Valid n	Missing	I do not know / not applicable	Mean	SD	Factor loadings	
						Final 40 items	Short version 24 items
Patient preferences							
1. I was treated with dignity and respect	550	-	40 (7%)	4.07	0.82	0.788	
2. I felt taken seriously	553	-	37 (6%)	4.01	0.82	0.862	
3. My care providers did not judge me	505	-	85 (14%)	3.98	0.81	0.812	0.785
4. The care was focused on improving my quality of life	508	-	82 (14%)	4.13	0.69	0.769	
5. I was involved in decisions	516	-	74 (13%)	3.96	0.79	0.794	0.812
6. My preferences were taken into account	503	-	87 (15%)	3.92	0.82	0.856	0.851
7. Consideration was given to what I can do myself	454	-	136 (23%)	4.06	0.73	0.824	
8. I was supported to set and achieve my own goals	460	-	137 (23%)	3.90	0.83	0.831	
Physical comfort							
9. Attention was given to my physical comfort (such as shortness of breath, sleep problems)	339	3 (1%)	248 (42%)	3.89	0.84	0.849	0.848
10. Where necessary, attention was given to pain management	436	3 (1%)	151 (26%)	4.07	0.77	0.832	0.836
11. Where necessary, attention was given to problems with physical activities (such as climbing stairs, playing with (grand)children)	298	5 (1%)	287 (49%)	3.86	0.84	0.835	0.835
12. Where necessary, attention was given to practical support needs (such as help with cleaning, grocery shopping)	231	5 (1%)	354 (60%)	3.55	1.01	0.639	

Table 3. Continued.

Item	Valid n	Missing	I do not know / not applicable	Mean	SD	Factor loadings	
						Final 40 items	Short version 24 items
Coordination of care							
13. Everyone was well-informed; I only had to tell my story once	481	5 (1%)	104 (18%)	3.35	1.07	0.809	0.827
14. The care was well attuned between the practitioners involved	448	5 (1%)	137 (23%)	3.53	0.96	0.903	0.927
15. I knew who was coordinating my care	424	5 (1%)	161 (27%)	3.50	0.97	0.764	
16. I had a first point of contact who knows everything about my care	360	5 (1%)	225 (38%)	3.28	1.11	0.787	
17. My care providers worked as a team	385	5 (1%)	200 (34%)	3.49	0.97	0.867	0.859
Emotional support							
18. Attention was paid to my feelings (such as anxiety or sadness)	402	5 (1%)	183 (31%)	3.70	0.91	0.873	0.827
19. Attention was paid to the impact of my health on my private life (such as family, work, social life, sexual well-being)	362	5 (1%)	223 (38%)	3.58	0.95	0.903	0.907
20. I was helped to gain understanding from my loved ones about my situation	276	5 (1%)	309 (52%)	3.39	0.96	0.803	0.802
Access to care							
21. It was no problem getting to appointments with my care providers	516	5 (1%)	69 (12%)	4.05	0.79	0.672	
22. All buildings were easily accessible	537	5 (1%)	48 (8%)	4.15	0.66	0.835	
23. Clear directions were provided to and inside the buildings	539	5 (1%)	46 (8%)	4.10	0.69	0.806	0.740

Table 3. Continued.

Item	Valid n	Missing	I do not know / not applicable	Mean	SD	Factor loadings	
						Final 40 items	Short version 24 items
24. Using medical tools (such as blood pressure monitors and scanning devices) went without any problems	458	5 (1%)	127 (22%)	4.17	0.62	0.766	0.835
25. Money was not a problem for me to the care and medicines I needed	431	5 (1%)	154 (26%)	3.85	0.96	0.513	0.564
26. Language was not a barrier to getting the right care and support	504	5 (1%)	81 (14%)	4.30	0.72	0.581	
Continuity of care							
27. When being referred, I was well-informed	457	7 (1%)	126 (21%)	3.89	0.82	0.858	0.861
28. With a referral, all my information was passed on correctly	442	7 (1%)	141 (24%)	3.78	0.87	0.891	0.898
29. I knew who to contact if I had a setback or things got worse	416	7 (1%)	167 (28%)	3.74	0.90	0.749	0.739
30. I was well informed	524	7 (1%)	59 (10%)	3.89	0.79	0.841	
31. I had easy access to my own data (such as test results, medication overview, referrals)	488	7 (1%)	95 (16%)	3.72	0.98	0.655	0.670
32. All the information I received was well explained	524	7 (1%)	59 (10%)	3.86	0.80	0.841	
33. If wanted, I received help with healthier living (such as information about a healthy lifestyle)	376	7 (1%)	207 (35%)	3.74	0.89	0.641	0.628
34. I was supported to be in charge of my own care	334	7 (1%)	249 (42%)	3.49	0.92	0.697	

Table 3. Continued.

Item	Valid n	Missing	I do not know / not applicable	Mean	SD	Factor loadings	
						Final 40 items	Short version 24 items
35. I always understood my care providers	505	7 (1%)	78 (13%)	3.78	0.84	0.763	0.736
36. Communication between me and my care providers was good	514	7 (1%)	69 (12%)	3.86	0.78	0.838	
Family and friends							
37. My loved ones could join me in consultations	380	7 (1%)	203 (34%)	3.83	0.95	0.728	0.763
38. Attention was given to possible questions from my loved ones	345	7 (1%)	238 (40%)	3.85	0.88	0.883	0.919
39. I was helped to involve my loved ones in a healthy lifestyle	268	7 (1%)	315 (53%)	3.37	1.01	0.821	
40. Attention was given to the supportive role of my loved ones	306	7 (1%)	277 (47%)	3.56	0.97	0.876	0.822

Items highlighted in bold are included in the short version of the PCOC.

Table 4. Scale characteristics and (inter-)correlations of the Person-centred Obesity Care (PCOC) instrument.

	Cronbach's α	Scale mean (SD)	1	2	3	4	5	6	7	8	9
1. Patient preferences	0.95	4.02 (0.66)		0.90	0.71	0.78	0.62	0.69	0.77	0.67	0.88
2. Physical comfort	0.89	3.93 (0.73)	0.70		0.69	0.78	0.61	0.70	0.76	0.75	0.89
3. Coordination of care	0.92	3.48 (0.87)	0.60	0.51		0.77	0.55	0.86	0.85	0.66	0.88
4. Emotional support	0.90	3.66 (0.84)	0.59	0.61	0.63		0.51	0.79	0.84	0.70	0.89
5. Access to care	0.87	4.11 (0.55)	0.51	0.44	0.42	0.35		0.69	0.71	0.54	0.75
6. Continuity of care	0.87	3.83 (0.75)	0.56	0.50	0.71	0.62	0.53		0.94	0.68	0.91
7. Information and education	0.92	3.80 (0.67)	0.65	0.58	0.71	0.67	0.58	0.78		0.73	0.95
8. Family and friends	0.91	3.71 (0.82)	0.48	0.50	0.46	0.50	0.36	0.46	0.52		0.82
9. Overall person-centred care	0.92[1]	3.82 (0.59)	0.80	0.74	0.82	0.79	0.65	0.84	0.88	0.66	

[1] Based on the eight dimensions.

Below the diagonal correlations for the observed data (imputed) are reported and above the diagonal correlations for the latent scores. All correlations $P < 0.001$ (two-tailed). The 40-item PCOC instrument was used. Results using the 24-item short version of the instrument were similar.

Construct validity

The correlations of the 40-item PCOC instrument and the two measures of satisfaction with care are depicted in Table 5. All eight PCC dimensions demonstrated significant positive correlations with the SASC and participants' ratings of overall satisfaction with care on a 0–10 scale (all $p < 0.001$). Almost all correlations were of a large magnitude, with only a few medium, supporting the construct validity of the instrument. Again, results using the 24-item short version of the PCOC instrument were similar.

Table 5. Correlations of person-centred care dimensions with satisfaction with care.

	Satisfaction with care	
	SASC	Satisfaction rating[1]
Patient preferences	0.63	0.56
Physical comfort	0.53	0.48
Coordination of care	0.65	0.60
Emotional support	0.64	0.55
Access to care	0.50	0.39
Continuity of care	0.70	0.59
Information and education	0.73	0.64
Family and friends	0.50	0.43
Overall person-centred care	0.79	0.68

Abbreviations: SASC, Satisfaction with Stroke Care questionnaire. [1]On a scale of 1 to 10, how satisfied are you with the care and support that was provided?'.

Results are based on the observed data (imputed). All correlations $p < 0.001$ (two-tailed). The 40-item PCOC instrument was used. Results using the 24-item short version of the instrument were similar.

DISCUSSION

The aim of this study was to validate an instrument for the assessment of PCC among patients living with obesity. Building on prior work, the initial PCOC version consisted of 49 items assessing the eight dimensions of PCC. While the first results were promising, the model showed some room for improvement. Stepwise elimination of nine items, resulted in the development of the 40-item PCOC instrument, with satisfactory-to-good indices of fit. Additionally, the possibility for a short version of the instrument was examined, which only further improved fit indicators and resulted in the development of a 24-item version. The results indicated good internal consistency and, in line with our expectations, we observed positive associations between the instrument and measures of satisfaction with care, indicating construct validity. Based on the results of this study, the 40-item PCOC instrument and the 24-item short version are reliable and valid instruments for the measurement of PCC among patients living with obesity. The 40-item PCOC instrument covers a broad range of aspects of care and support, providing a comprehensive assessment of each PCC dimension. This detailed tool can be valuable in certain settings, such as in-depth clinical assessment or within research settings. On the other hand, the 24-item short version is brief and allows for the assessment of PCC among patients living with obesity with a minimal burden of use. This may be especially useful within clinical settings where time resources are limited.

Prior research showed the potential for improved patient outcomes through the eight dimensions of PCC.[33] Although there is growing recognition of the potential of PCC to improve healthcare outcomes among patients living with obesity, there remains a lack of research addressing this specific population.[5,10] Some past studies indicate that a more holistic approach to obesity management can yield positive effects. For example, a recent study demonstrated that incorporating well-being therapy alongside a behavioural lifestyle intervention resulted in greater improvements in patients' depressive symptoms, autonomy, personal growth, and overall psychological well-being.[47] Assessment of patients' experiences with PCC and its eight dimensions will help elucidate the value of PCC for improved healthcare and outcomes for patients living with obesity.

Due to the strong correlation with satisfaction with care, the instruments also hold promise as quality measures within clinical settings. The observed variation in ratings across dimensions showed that the instruments effectively distinguished between the different dimensions of PCC. We observed relatively high item means within the dimensions access to care and patient preferences, and relatively low item means within the coordination of care dimension, as well as some lower-rated items within other PCC dimensions. PCC is a broad concept encompassing a wide range of strategies and approaches to redesign and improve health care. Shaping care to be truly person-centred can be quite a challenge.[48] These instruments can help care providers in evaluating the level of person-centredness and to identify specific area's that may need improvement. For example, the higher scores observed within the patient preferences dimension indicate that participants were relatively satisfied with the extent to which their preferences were taken into account and their involvement in decision making. In contrast, the lower ratings in the coordination of care dimension suggest that there may be room for improvement in terms of professional collaboration and alignment among the different healthcare professionals involved. Additionally, the instrument can be used repeatedly, for example, to explore the effectiveness of healthcare quality improvement programs over time.

Item analyses yielded a considerable number of 'I do not know/not applicable' responses across PCOC dimensions. Examination of missing values revealed that participants with comorbid health conditions were less likely to opt for the 'I do not know/not applicable' response. This finding is not surprising, as individuals with multiple chronic conditions typically experience poorer health status, are at higher risk of complications and disability, and use healthcare services more frequently.[49] Given the multifaceted nature of obesity and the heterogeneous needs of this patient group, certain aspects of care may apply only to specific individuals. For instance, attention to practical support needs and problems with physical activity is only needed for those experiencing limitations in mobility and self-care, issues linked to more severe levels of obesity.[50] In line with prior research, a relatively high frequency of the 'I do not know/not applicable' response was also observed within the dimensions emotional support and family and friends.[42] While such aspects of care may be relevant only to certain individuals, they can be vital for those to whom they are relevant.[32] Inclusion of these items thus seems to be important to capture the full spectrum of experiences.

This study has some limitations. First, this study used BMI as a sole measure of obesity. While this method is widely used, a more comprehensive assessment would preferably incorporate data on waist circumference, a significant indicator of body fat in the abdominal area. Second, while allowing respondents to respond with 'I do not know/not applicable' to express uncertainty or indicate when an item was not applicable has its benefits for reducing response bias in the data, it resulted in a relatively high rate of missing values. Since we did not collect specific data on participants' recent healthcare use, it is unclear whether this is linked to the frequency of care participants recently received. Future studies could address this by collecting data within real-time service environments, such as specific care facilities, to better understand how respondents' response patterns relate to their recent healthcare use. Finally, there are several psychometric properties of the PCOC that could not be evaluated in this study and thus remain undefined. The instrument would benefit from further psychometric investigation, including establishing reliability over time. Additionally, to strengthen the generalizability and applicability of the PCOC, we included patients across diverse classes of obesity (BMI range 30–59). However, the average BMI in our study indicated a predominance of class I obesity. Further research may bring more insights into refining the assessment of PCC for those living with more severe levels of obesity. Additionally, despite these limitations, this study is the first to validate an instrument that can be used to measure the eight dimensions of PCC among patients living with obesity.

Conclusions

Despite an alarming rise in prevalence, patients living with obesity often are the subject of suboptimal care. Although there is a growing recognition of the potential of PCC to improve healthcare outcomes in this vulnerable group, there has been a lack of adequate guidance and resources. In this study, we demonstrate that the psychometric properties of the 40-item PCOC instrument and its 24-item short version are good. Based on the results, these instruments are promising tools for the assessment of PCC among patients living with obesity by both researchers and clinicians.

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SUPPLEMENTARY MATERIAL

Table S1. Person-centred care dimensions.

Dimension	Description
Respect for patient preferences, values, and expressed needs	Treating patients with dignity and respect and demonstrating sensitivity to their preferences, needs and values. For decades, negative biases towards people living with obesity have persisted among health-care professionals, leading to compromised quality of care and causing patients to feel disrespected and misunderstood.[16] Obesity is a chronic and complex disease with multifactorial causes and varied symptoms, necessitating individualized treatment plans that consider all contributing factors.[6,7] Rather than the achievement of weight loss alone, treatment goals should consider the management of comorbidities and other complications and focus on the improvement of quality of life and well-being.[6,8]
Physical comfort	Supporting the physical comfort of patients. For instance, by offering pain management if needed, or attending to problems with physical activity. Obesity is associated with many comorbidities (e.g. diabetes, cardiovascular disease, cancer, kidney diseases, depression, arthritis) and discomforts (e.g. sleep problems, chronic pain, disability).[3,17,18] These comorbidities and weight-related physical discomforts exacerbate the decline in physical function, which is a serious issue because it leads to (further) declines in fitness and health-related quality of life.[18] Attention for physical comfort, comorbidities and complications should be integral part of obesity management.
Coordination of care	Collaborating across disciplines within a single organisation. Given the complex nature of obesity, the many comorbidities, physical discomforts and emotional problems that come with it, there is a need to integrate and align care between all involved healthcare professionals. Realizing comprehensive obesity management necessitates a multidisciplinary team effort that addresses all aspects of obesity.[6] Patients living with obesity are indeed expected to benefit from care that is coordinated within this multidisciplinary team.[19]
Emotional support	Attending to emotional problems and mental health of patients. Research clearly shows that obesity is associated with a significant psychosocial and emotional burden.[4] Those affected are known to struggle with issues related to their mood, self-esteem, quality of life, body image, and the adverse effects of stigmatization, which can hinder treatment efficacy. Promoting psychological well-being among individuals living with obesity has proven to be beneficial for the improvement of overall quality of life and facilitating long-term weight-loss.[20,21]

Table S1. Continued.

Dimension	Description
Access to care	Timely access to appropriate healthcare services. Negative biases among healthcare professionals contribute to compromised access to care for patients living with obesity.[16] There is, for example, evidence that healthcare professionals spend less time in appointments with people living with obesity.[22] Experiences of weight stigma among people living with obesity, in turn, leads to avoidance of future healthcare and lower trust in healthcare professionals which, limits access to care and appropriate quality of care.[23,24] Healthcare professionals need to be adequately educated about the complexities of obesity and have access to appropriate resources to provide patients the right support and guidance.
Continuity and transition of care	Collaboration, coordination and integration across organisations. People living with obesity are usually in need of complex long-term care that extends beyond a single organisation. If care is truly person-centred, collaboration is characterized by continued care and having smooth transitions between providers. Although interdisciplinary approaches are increasingly suggested in obesity management, the actual functioning of teams can be highly challenging.[25] Currently, care remains fragmented and not optimally aligned. Collaboration between professionals and the coordination of care can and needs to be improved.[26,27]
Information and education	Patients should receive appropriate information and education about all aspects of their care at all stages. Research shows that physicians are currently unprepared to treat patients living with obesity; medical students remain inadequately trained in obesity and obesity management.[28] This is of great concern given that patients need to be adequately informed and educated to make informed decisions about their health and take charge of their own care. Currently, opportunities to discuss weight with patients are often missed and healthcare advice given can be of poor quality due to insufficient education or resources.[29]
Involvement of family and friends	Sometimes (when wanted or needed), PCC delivery also includes paying attention to the roles of family and friends in treatment. Research among young people living with obesity, for example, showed that close friends and parents provide essential social support and are considered very important for better outcomes.[30] Studies among people living with severe obesity who undergo bariatric surgery also show that a partner, family and friends are the key pillars of social support and crucial for a positive outcome of the treatment.[31] A recent study among adults living with obesity showed that involvement of family and friends was relatively unimportant to some, while others seemed more dependent on social support from family and friends.[32]

Table S2. Characteristics of responses to the first model using all 49 person-centred care items.

Item	Valid n	Missing	I do not know / not applicable	Mean	SD
Patient preferences					
1. I was treated with dignity and respect	550	-	40 (7%)	4.07	0.82
2. I felt taken seriously	553	-	37 (6%)	4.01	0.82
3. My care providers did not judge me	505	-	85 (14%)	3.98	0.81
4. The care was focused on improving my quality of life	508	-	82 (14%)	4.13	0.69
5. I was involved in decisions	516	-	74 (13%)	3.96	0.79
6. My preferences were taken into account	503	-	87 (15%)	3.92	0.82
7. Consideration was given to what I can do myself	454	-	136 (23%)	4.06	0.73
8. I was supported to set and achieve my own goals	460	-	137 (23%)	3.90	0.83
Physical comfort					
9. Attention was given to my physical comfort (such as shortness of breath, sleep problems)	339	3 (1%)	248 (42%)	3.89	0.84
10. Where necessary, attention was given to pain management	436	3 (1%)	151 (26%)	4.07	0.77
11. Where necessary, attention was given to problems with physical activities (such as climbing stairs, playing with (grand)children)	298	5 (1%)	287 (49%)	3.86	0.84
12. Where necessary, attention was given to practical support needs (such as help with cleaning, grocery shopping)	231	5 (1%)	354 (60%)	3.55	1.01
13. The (waiting) rooms were comfortable (such as comfortable chairs)	489	5 (1%)	96 (16%)	3.73	0.84
14. The (waiting) rooms were clean	520	5 (1%)	65 (11%)	4.06	0.65
15. There was sufficient privacy in (waiting) rooms and at the counter	519	5 (1%)	66 (11%)	3.51	0.95
Coordination of care					
16. Everyone was well-informed; I only had to tell my story once	481	5 (1%)	104 (18%)	3.35	1.07
17. The care was well attuned between the practitioners involved	448	5 (1%)	137 (23%)	3.53	0.96
18. I knew where to go if I had questions	499	5 (1%)	86 (15%)	3.78	0.85
19. I knew who was coordinating my care	424	5 (1%)	161 (27%)	3.50	0.97
20. I had a first point of contact who knows everything about my care	360	5 (1%)	225 (38%)	3.28	1.11
21. My care providers worked as a team	385	5 (1%)	200 (34%)	3.49	0.97

Table S2. Continued.

Item	Valid n	Missing	I do not know / not applicable	Mean	SD
Emotional support					
22. I was really listened to	499	5 (1%)	86 (15%)	3.81	0.89
23. Attention was paid to my feelings (such as anxiety or sadness)	402	5 (1%)	183 (31%)	3.70	0.91
24. Attention was paid to the impact of my health on my private life (such as family, work, social life, sexual well-being)	362	5 (1%)	223 (38%)	3.58	0.95
25. I was helped to gain understanding from my loved ones about my situation	276	5 (1%)	309 (52%)	3.39	0.96
Access to care					
26. It was no problem getting to appointments with my care providers	516	5 (1%)	69 (12%)	4.05	0.79
27. All buildings were easily accessible	537	5 (1%)	48 (8%)	4.15	0.66
28. Clear directions were provided to and inside the buildings	539	5 (1%)	46 (8%)	4.10	0.69
29. There was sufficient time during appointments	526	5 (1%)	59 (10%)	3.91	0.81
30. Using medical tools (such as blood pressure monitors and scanning devices) went without any problems	458	5 (1%)	127 (22%)	4.17	0.62
31. Money was not a problem for me to the care and medicines I needed	431	5 (1%)	154 (26%)	3.85	0.96
32. I could easily schedule an appointment	541	5 (1%)	44 (8%)	3.89	0.87
33. The waiting times for an appointment were acceptable	527	5 (1%)	58 (10%)	3.54	1.02
34. Language was not a barrier to getting the right care and support	504	5 (1%)	81 (14%)	4.30	0.72
Continuity of care					
35. When being referred, I was well-informed	457	7 (1%)	126 (21%)	3.89	0.82
36. With a referral, all my information was passed on correctly	442	7 (1%)	141 (24%)	3.78	0.87
37. I knew who to contact if I had a setback or things got worse	416	7 (1%)	167 (28%)	3.74	0.90
38. Advice from different care providers was well attuned	371	7 (1%)	212 (36%)	3.49	1.02
Information and education					
39. I was well informed	524	7 (1%)	59 (10%)	3.89	0.79

Table S2. Continued.

Item	Valid n	Missing	I do not know / not applicable	Mean	SD
40. I had easy access to my own data (such as test results, medication overview, referrals)	488	7 (1%)	95 (16%)	3.72	0.98
41. All the information I received was well explained	524	7 (1%)	59 (10%)	3.86	0.80
42. If wanted, I received help with healthier living (such as information about a healthy lifestyle)	376	7 (1%)	207 (35%)	3.74	0.89
43. I was supported to be in charge of my own care	334	7 (1%)	249 (42%)	3.49	0.92
44. I always understood my care providers	505	7 (1%)	78 (13%)	3.78	0.84
45. Communication between me and my care providers was good	514	7 (1%)	69 (12%)	3.86	0.78
Family and friends					
46. My loved ones could join me in consultations	380	7 (1%)	203 (34%)	3.83	0.95
47. Attention was given to possible questions from my loved ones	345	7 (1%)	238 (40%)	3.85	0.88
48. I was helped to involve my loved ones in a healthy lifestyle	268	7 (1%)	315 (53%)	3.37	1.01
49. Attention was given to the supportive role of my loved ones	306	7 (1%)	277 (47%)	3.56	0.97

Items 13, 14, 15, 18, 22, 29, 32, 33, and 38 were not included in the final 40-item PCOC instrument.

VRAGENLIJST PERSOONSGERICHTE OBESITASZORG

Geef aan in hoeverre u het eens bent met de volgende uitspraken door het antwoord te kiezen dat het beste bij u past: *helemaal mee oneens, mee oneens, noch eens/noch oneens, mee eens of helemaal mee eens*.

Als een vraag niet van toepassing is voor u of als u het antwoord echt niet weet dan kunt u *niet van toepassing / weet ik niet* aankruisen.

Rekening houden met voorkeuren

1. Ik werd met waardigheid en respect behandeld
2. Ik werd serieus genomen
3. De zorgverleners hadden geen vooroordelen over mij*
4. De zorg had als doel om mijn kwaliteit van leven te verbeteren
5. Ik werd betrokken bij beslissingen*
6. Er werd rekening gehouden met mijn voorkeuren*
7. Er was aandacht voor wat ik zelf (nog) kan
8. Ik werd geholpen om mijn eigen doelen te bepalen en bereiken

Fysiek comfort

9. Er was aandacht voor mijn lichamelijke comfort (zoals kortademigheid, slaapproblemen)*
10. Er was aandacht voor het behandelen van pijn als dat nodig was*
11. Er was zo nodig aandacht voor problemen met lichamelijke activiteiten (zoals traplopen, spelen met (klein)kinderen)*
12. Er was aandacht voor praktische hulp als dat nodig was (zoals bij schoonmaken, boodschappen doen)

Coördinatie van zorg

13. Iedereen was goed geïnformeerd; ik hoefde mijn verhaal maar één keer te vertellen*
14. De zorg was goed afgestemd tussen zorgverleners*
15. Ik wist wie mijn zorg coördineerde
16. Ik had een contactpersoon die alles wist over de zorg die ik kreeg
17. Mijn zorgverleners werkten samen als een team*

Emotionele steun

18. Er was aandacht voor mijn gevoelens (zoals angst of verdriet)*
19. Er was aandacht voor de invloed van mijn gezondheid op mijn privéleven (zoals gezin, werk, sociaal leven, seksueel welzijn)*
20. Ik werd geholpen om begrip te krijgen van mijn naasten voor mijn situatie*

Toegang tot zorg

21. Het was geen probleem om naar de afspraken met mijn zorgverlener(s) te gaan
22. Alle gebouwen waren toegankelijk
23. De route naar en binnen gebouwen was duidelijk*
24. Het gebruik van medische hulpmiddelen (zoals bloeddrukmeters en scanapparatuur) verliep zonder problemen*
25. Geld was voor mij geen probleem om de juiste zorg en medicijnen te krijgen*
26. Taal was voor mij geen probleem om de juiste zorg en ondersteuning te krijgen

Continuïteit en transitie

27. Bij een doorverwijzing werd ik goed geïnformeerd*
28. Bij een doorverwijzing werd al mijn informatie goed doorgegeven*
29. Ik wist bij wie ik terecht kon bij een terugval of verslechtering*

Informatie en educatie

30. Ik werd goed geïnformeerd
31. Ik had makkelijk toegang tot mijn eigen gegevens (zoals testuitslagen, medicijnen, doorverwijzingen)*
32. Alle informatie werd goed uitgelegd
33. Ik kreeg hulp om gezonder te leven als ik dit wilde (zoals informatie over een gezonde leefstijl)*
34. Ik werd geholpen om de leiding te kunnen nemen over mijn zorg
35. Ik begreep mijn zorgverleners altijd*
36. Er was goede communicatie tussen mij en mijn zorgverleners

Familie en vrienden

37. Het was mogelijk om mijn naasten bij afspraken te betrekken*
38. Er was ruimte voor vragen van mijn naasten*
39. Ik werd geholpen om mijn naasten te betrekken bij een gezonde leefstijl
40. Er was aandacht voor mijn naasten in hun rol als ondersteuner*

Toelichting

De Vragenlijst Persoonsgerichte Obesitaszorg meet de mate van persoonsgerichte zorg en ondersteuning zoals ervaren door patiënten met obesitas. De vragenlijst richt zich op de acht dimensies van persoonsgerichte zorg: (1) de mate waarin rekening werd gehouden met de waarden, voorkeuren en behoeften van patiënten met obesitas, (2) de mate waarin aandacht werd besteed aan het fysiek comfort van patiënten met obesitas, (3) de mate waarin de zorg werd gecoördineerd tussen professionals, (4) de mate waarin patiënten met obesitas emotionele steun ervaarden, (5) de mate waarin de zorg toegankelijk was voor patiënten met obesitas, (6) de mate waarin continuïteit van zorg tussen verschillende zorgverleners werd gewaarborgd, (7) de mate waarin passende informatie en educatie gegeven werd aan patiënten met obesitas, en (8) de mate waarin familie en vrienden werden betrokken bij de zorg en ondersteuning van patiënten met obesitas. De vragenlijst Persoonsgerichte Obesitaszorg is de Nederlandse vertaling van de Person-Centred Obesity Care (PCOC) Instrument, ontwikkeld door onderzoekers van de Erasmus School of Health Policy & Management en het Erasmus MC. De vragenlijst kan zowel in een volledige als een verkorte versie worden afgenomen. De verkorte versie bestaat uit 24 items, die met een sterretje zijn gemarkeerd.

Scoring

1=Helemaal mee oneens; 2=Mee oneens; 3=Noch eens / noch oneens; 4=Mee eens; 5=Helemaal mee eens

Voor elke van de acht dimensies van persoonsgerichte zorg wordt een afzonderlijke dimensiescore berekend door het gemiddelde te nemen van de scores van alle items binnen die dimensie. Als de antwoordoptie 'Niet van toepassing / weet ik niet' is gebruikt, is minimaal twee derde van de itemscores vereist om een dimensiescore te berekenen. Een hogere score op deze schaal duidt op een grotere mate van ervaren persoonsgerichte zorg binnen deze dimensie door patiënten met obesitas. De scores op deze schaal variëren van minimaal 1 tot maximaal 5. De totaalscore van de Vragenlijst Persoonsgerichte Obesitaszorg wordt berekend door het gemiddelde te nemen van alle dimensiescores. Indien de antwoordoptie 'Niet van toepassing / weet ik niet' is gebruikt, zijn minimaal vijf ingevulde dimensiescores vereist om een totaalscore te berekenen. Een hogere totaalscore weerspiegelt een grotere mate van ervaren persoonsgerichte zorg door patiënten met obesitas. Ook voor de totaalscore ligt het bereik tussen 1 en 5.

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CHAPTER 4

Perceived weight stigma in healthcare settings among adults living with obesity: a cross-sectional investigation of the relationship with patient characteristics and person-centred care

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ABSTRACT

Introduction

Patients living with obesity often experience weight stigma in healthcare settings, which has worrying consequences for their healthcare experiences. This cross-sectional study aimed to: 1) provide an overview of stigmatizing experiences in healthcare settings reported by adults living with varying classes of obesity, 2) identify associations among patient characteristics and perceived weight stigma, and 3) investigate the association between perceived weight stigma and person-centred care (PCC).

Methods

Dutch adults living with obesity classes I (Body mass index [BMI] 30 to <35 kg/m^2; n = 426), II (BMI 35 to <40 kg/m^2; n = 124), and III (BMI ≥40 kg/m^2; n = 40) completed measures of perceived weight stigma in healthcare settings and PCC. Descriptive, correlational, and multivariate analyses were conducted.

Results

Of patients living with classes I, II, and III obesity, 41%, 59%, and 80%, respectively, reported experiences of weight stigma in healthcare settings. Younger age, greater obesity severity, and the presence of chronic illness were associated with greater perceived weight stigma. Greater perceived weight stigma was associated with lower PCC.

Conclusion

The results of this study emphasize the significant role of weight stigma in the healthcare experiences of patients living with obesity. Reducing weight stigma is expected to improve PCC and overall quality of care for these patients. Minimizing weight stigma will require efforts across various healthcare domains, including increasing awareness among healthcare professionals about sensitive communication in weight-related discussions.

Patient contribution

Our sample consisted of patients living with obesity. Additionally, patients were involved in the pilot testing and refinement of the PCC instrument.

INTRODUCTION

While the global prevalence of obesity continues to increase, many patients living with this chronic condition are dissatisfied with their healthcare experiences and treatment outcomes.[1-3] The focus of care for these patients is often limited to the achievement of weight loss, even though established guidelines advocate for a more comprehensive approach that addresses not only weight management, but also the prevention of complications, management of comorbidities, and improvement of overall well-being and quality of life.[4,5] Despite the existence of such guidelines, many patients living with obesity receive inadequate medical attention and support, frequently feeling unheard and perceiving that healthcare professionals do not take their medical concerns seriously because of their weight.[6] Consequently, many of these patients report weight-related discrimination or bias, commonly referred to as weight stigma, during their interactions with healthcare professionals.[7] Link and Phelan's widely accepted theoretical framework holds that stigma arises when its components of labelling, stereotyping, separation, status loss, and discrimination co-occur in a power-imbalanced situation that allows them to unfold.[8,9] According to this theory, the labelling of individuals or groups as different, association of negative stereotypes with those labels, and separation of these people into a distinct category (e.g., "them versus us") leads to status loss and discrimination. In healthcare settings, weight stigma can manifest through healthcare professionals' endorsement of negative stereotypes, exhibition of prejudicial attitudes, and engagement in discriminatory behaviours toward patients because of their weight. Research indicates that this phenomenon extends across a wide range of healthcare professionals, including physicians, nurses, medical students, fitness professionals, dieticians, and obesity specialists.[10-12]

Weight stigma has worrying consequences for the healthcare experiences of patients and may undermine the provision of person-centred care (PCC), defined as "care that is respective of patients' preferences, needs, and values and ensures that patient values guide all clinical decisions."[13] Patients who receive care in accordance with person-centred principles tend to express greater satisfaction with care and achieve better treatment outcomes.[14] However, the delivery of PCC to patients living with obesity may be hindered by healthcare professionals' negative attitudes and stereotyping of these patients because of their weight. A review highlighting the implications of weight stigma revealed that healthcare professionals holding such negative attitudes often exhibit reduced engagement in person-centred communication, express less respect for patients living with obesity, allocate less time to their care, and fail to provide adequate diagnostic testing and treatment options.[15] The review further revealed that patients may, in return, experience elevated stress, withdraw from active participation in healthcare, and adhere poorly to professional recommendations due to mistrust. More recently, a multi-national study documented several adverse healthcare experiences in response to weight stigma; patients reported increased judgment from physicians, reduced quality of healthcare encounters, and diminished respect from physicians, along with less attention to their concerns.[16] Experiencing weight stigma was also associated with attending fewer routine medical check-ups and increased avoidance of healthcare services. Despite the documentation of these adverse implications of weight stigma on patients' healthcare experiences, the link between patient experiences with weight stigma in healthcare settings and PCC is less well established.

Furthermore, there are gaps in the literature regarding the weight stigma experiences of patients living with obesity in healthcare settings. Existing evidence, primarily from the United States (US), highlights the prevalence of weight stigma, yet detailed data on the frequency and nature of these experiences are limited.[10,16] A few studies have shed light on the most common types of weight stigma experienced by patients. For example, adults in behavioural weight-loss programs reported few overt stigmatizing incidents; their experiences with stigma tended to be more subtle, such as when doctors brought up weight when the patients found it to be irrelevant.[17] Similar findings have been reported for underserved women living with obesity seeking care in health centres.[18] However, more research is needed to extend these findings to more diverse populations outside the US, where weight stigma experiences may differ.

Additionally, the variability in weight stigma experiences based on patient characteristics remains unclear. Existing studies lack conclusive evidence on the link between sociodemographic factors and weight stigma, especially in the context of healthcare settings. While some findings suggest that females and younger individuals experience more weight stigma, these relationships lack consistency across studies.[17-22] Obesity is commonly classified by BMI into classes I (30 to <35 kg/m^2), II (35 to <40 kg/m^2), and III (≥40 kg/m^2). Although weight stigma is often linked to higher obesity classes, evidence indicates that weight stigma in healthcare settings is experienced across obesity classes.[19,20] For instance, in a Swedish population-based study, 25.8% of individuals living with class I obesity and 40.6% of those living with classes II and III obesity perceived weight stigma in healthcare settings.[23] The impact of other health-related factors remains largely unknown. Given that patients in poorer health are particularly vulnerable to the receipt of suboptimal care, they may be at greater risk of experiencing weight stigma.[24] To identify those who are most vulnerable to the implications of weight stigma, a better understanding of the attributes of patients most likely to encounter such stigma in healthcare settings is needed.

Currently, the relationship between weight stigma and PCC is not well established, and data on the frequency and nature of weight-stigmatizing experiences in healthcare settings among patients living with obesity are lacking. Furthermore, data on patient factors that contribute to the perception of weight stigma in such settings are limited. We aimed to fill these gaps by pursuing three objectives: 1) to provide an overview of stigmatizing experiences in healthcare settings reported by adults living with varying classes of obesity, 2) to explore associations between patient characteristics and perceived weight stigma, and 3) to investigate the link between perceived weight stigma and PCC.

METHODS

Participants

Data for this study were collected through the Longitudinal Internet Studies for the Social Sciences (LISS) panel, a probability-based online panel comprising roughly 6,500 individuals from about 4,700 households, selected from the Dutch population register. Participants in the panel receive monetary compensation for completing monthly web-based questionnaires. Annually, a longitudinal core study is conducted within the panel, capturing repeated health measures. Household and respondent demographics are updated monthly by one household member. Households lacking a computer or internet connection are provided with such to facilitate participation. Quest software is used for data collection. The panel abides by the European "General Data Protection Regulation (GDPR)" and complies with all relevant ethical regulations. Our questionnaire was distributed among all panel members aged 18 years or older with a BMI of 30 kg/m^2 or higher (N = 896) in July 2022, generating a total of 732 responses (82% response rate). A compensation of 4 euro was given to all respondents upon completion of the survey. BMI was calculated using self-reported data on height and weight gathered during the latest wave of the annual health survey administered in November and December 2021. Outliers in BMI were identified by comparing the current wave's data with weight and height information from at least three previous waves, resulting in the exclusion of five cases with implausible weight values (e.g., 176 kg, compared to 76 kg in 2020 and preceding years). Furthermore, an examination of survey completion times led to the exclusion of seven respondents who completed the questionnaire faster than was deemed possible for accurate responses. Finally, data from 130 participants who responded "I do not know/not applicable" to all PCC-related items were excluded from the analysis, resulting in a final sample of 590 participants. Sample characteristics are provided in Table 1.

Table 1. Characteristics of the study sample (N = 590).

	Range	% or mean (SD)
Sex (female)		57.1%
Age	18–92	59.22 (14.85)
Marital status (single)		34.2%
Education		
Low		33.2%
Intermediate		36.6%
High		30.2%
BMI	30–59	33.37 (3.88); 32 (4)[d]
30 to <35 kg/m^2 (class I obesity)		72.2%
35 to <40 kg/m^2 (class II obesity)		21.0%
≥40 kg/m^2 (class III obesity)		6.8%
Chronic illness[a]		60.2%
SSHC[b]	0–48	3.03 (6.21); 0 (3)[d]
Person-centred care[c]	1.8–5	3.83 (0.59)

Abbreviations: BMI, body mass index; SSHC, Stigmatizing Situations in Healthcare score. [a]Other than obesity. [b]Derived by summing all item scores (0 [never] to 3 [more than twice]), maximum = 48. [c]Derived by averaging dimension scores, range 1–5. [d]Mean (SD); median (IQR).

Measures

Perceived weight stigma in healthcare settings

We assessed participants' perceptions of weight stigma in healthcare settings using a modified version of the 20-item Stigmatizing Situations in Healthcare (SSHC) questionnaire, which measures patients’ experiences of weight stigma at a particular practice site.[18] To broaden the instrument's applicability to a wider healthcare setting, we replaced specific terms like “doctor” with “healthcare professional” to make the questionnaire more inclusive. A strong overlap among some of the items allowed for the elimination of three items (“Having nurses make negative remarks, ridicule you or call you names,” “Having medical staff make negative comments about weight to others,” and “Having office staff, for example a front desk receptionist, make negative remarks to you”). We also excluded one item that was deemed unsuitable for the study's purpose (“A doctor saying weight is a health problem when you are in good health”), as the World Health Organization and European Commission define obesity as a disease, even in the absence of complications.[25] All adjustments were made in accordance with the expert opinion of an internist-endocrinologist and professor in the field of obesity and stress research who is involved in the provision of care to patients living with obesity and policy advice at the national and international level. The modified questionnaire had 16 items (Table 2). Participants were asked to rate each item on a 4-point scale (never [0], once [1], twice [2], and more than twice [3]) to indicate how frequently the situation had occurred to them in a healthcare setting. An overall score was calculated by summing all item scores. Cronbach's alpha for the 16-item measure was calculated at 0.91.

PCC for patients living with obesity

We measured PCC for patients living with obesity using a 40-item instrument based on the eight dimensions of PCC: respect for patients' preferences, physical comfort, the coordination of care, emotional support, access to care, the continuity of care, the provision of information and education, and the involvement of family members and friends.[26,27] The instrument builds on previous research that examined the importance of these dimensions to patients living with obesity,[28] as well as research on PCC in other patient populations and healthcare settings.[29,30] The items were reviewed and discussed thoroughly, and adjustments were guided by relevant literature,[2,5,31] consultation with two individuals living with obesity, and the expert advice of an internist-endocrinologist and professor specialized in obesity and stress research. Participants rated the items on a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree), with the additional option to respond “I do not know/not applicable.” Average dimension scores were calculated when participants provided responses to about two-thirds of the relevant items, and overall PCC scores were calculated for participants with at least five dimension scores by averaging those scores. The 40-item model showed satisfactory-to-good fit, meeting structural equation modelling (SEM) cut-off criteria (CFI = 0.96, SRMR= 0.05, RMSEA = 0.04). The Cronbach’s alpha values for the full instrument and subscales in this study were 0.92 and ≥0.87, respectively.

Patient characteristics

BMI values categorized participants into obesity classes: I (30 to <35 kg/m^2), II (35 to <40 kg/m^2), and III (≥40 kg/m^2). Sociodemographic data included sex, age, marital status, and education level. Marital status was classified as “single” and “living with a partner,” with or without children. Education levels were “low” (primary or lower vocational school), “intermediate” (secondary or intermediate vocational school), and “high” (higher vocational school or university). Additionally, to determine the presence of additional chronic illnesses, participants were asked to indicate (by “yes” or “no” response) whether they had any of 10 predefined conditions from a validated list (diabetes, cardiovascular diseases, heart failure, lung diseases, cancer, arthrosis, osteoporosis, chronic joint inflammation, depression, and anxiety).[32] They were also given the option to list any other chronic illnesses that they had.

Table 2. Stigmatizing Situations in Healthcare (SSHC) items reported by patients living with obesity classes I, II, and III.

How often has this happened to you?	At least once *n* (%)		
	Class I obesity (n=426)	Class II obesity (n=124)	Class III obesity (n=40)
1. A healthcare professional blaming unrelated physical problems on your weight	109 (25.6%)	49 (39.7%)	25 (62.5%)
2. A healthcare professional makes cruel remarks, ridicules you or calls you names	26 (6.1%)	10 (8.2%)	10 (25%)
3. A healthcare professional recommending a diet even if you did not intend to discuss weight	79 (18.5%)	41 (33.2%)	21 (52.5%)
4. Not being able to find medical equipment, such as blood pressure cuffs or gowns that fit you	18 (4.1%)	8 (6.5%)	11 (27.5%)
5. A healthcare professional telling you to lose weight but not providing weight loss treatment options or advice on how to get help for weight loss	76 (17.9%)	36 (29.2%)	19 (47.5%)
6. Being stared at by medical staff when you go to the doctor's office	19 (4.4%)	9 (7.3%)	7 (17.5%)
7. Having healthcare professionals suggest diets to you without you asking for advice	52 (12.3%)	23 (18.7%)	15 (37.5%)
8. Overhearing medical staff make rude comments about you	18 (4.2%)	7 (5.9%)	9 (22.5%)
9. When you are weighed on a scale, the scale is not suitable for your weight	9 (2.2%)	5 (4.3%)	7 (17.5%)
10. When you are weighed on a scale, the medical staff makes negative comments about your weight	14 (4%)	9 (7.4%)	6 (15%)
11. Not being able to fit in chairs in the waiting room	8 (1.9%)	7 (5.9%)	13 (32.5%)
12. A healthcare professional refusing to do an exam on you because of your weight	4 (0.9%)	2 (1.9%)	7 (17.5%)
13. A healthcare professional assumes you overeat or binge-eat because of your weight	50 (11.8%)	25 (19.9%)	17 (42.5%)
14. A healthcare professional assumes you have emotional problems because of your weight	26 (6.2%)	15 (11.7%)	14 (35%)
15. Being treated as less competent by health care providers because of your weight	19 (4.5%)	8 (6.8%)	14 (35%)

Table 2. Continued.

How often has this happened to you?	At least once *n* (%)		
	Class I obesity (n=426)	Class II obesity (n=124)	Class III obesity (n=40)
16. Being treated as lazy by health care providers because of your weight	21 (4.9%)	12 (9.4%)	14 (35%)
SSHC[a] mean (SD); median (IQR)	2.0 (4.4); 0 (2)	3.8 (6.7); 1 (4)	10.6 (10.7); 8 (16)

Abbreviations: BMI, body mass index; SSHC, Stigmatizing Situations in Healthcare score. [a]Derived by summing all item scores (0 [never] to 3 [more than twice]), maximum = 48.

Statistical analysis

Descriptive statistics encompassed frequency and percentage calculations for categorical variables, and mean with standard deviation (SD) for continuous variables. Given the positive skewness of BMI values and SSHC scores, median and interquartile range (IQR) were also provided for these variables. Spearman coefficients were used to identify crude associations between SSHC scores and other study variables. To investigate multivariate relationships among patient characteristics and SSHC scores, a negative binomial regression model was applied due to the overdispersion detected in Poisson regression attempts. Exponential coefficients from the negative binomial model were used to calculate incidence rate ratios (IRR) along with their corresponding 95% confidence intervals (CI). Finally, to investigate the relationship between SSHC and PCC scores while controlling for patient characteristics, multiple regression analysis was conducted. In case of multiple comparisons, Bonferroni corrections were applied to reduce the likelihood of Type I error. An examination of missing values (items with a > 5% "not applicable" response) revealed that participants without comorbid conditions had more missing data on some PCC items. In addition to standard complete-case analysis (Table A1 to A3), multiple imputation was used to estimate overall associations among the variables. The Markov Chain Monte Carlo algorithm was used to impute missing values twenty times (with 50 iterations), applying predictive mean matching as the imputation method. The analyses for this study were carried out using SPSS version 29.[33]

RESULTS

Descriptives statistics of all participant characteristics and study variables are depicted in Table 1.

3.1 Stigmatizing experiences in healthcare

Table 2 shows the stigmatizing experiences reported by individuals by obesity class. The percentages of participants reporting at least one weight stigma experience in a healthcare setting ranged from 41% for those living with class I obesity to 59% and 80% for those with classes II and III obesity, respectively. Across obesity classes, the most commonly reported experiences were healthcare professionals blaming unrelated physical problems on patients' weight (reported by 25.6–62.5% of participants), recommending a diet even when patients did not intend to discuss weight (reported by 18.6–52.5% of participants), and telling patients to lose weight but providing no weight-loss treatment option or advice on how to get help for weight loss (reported by 17.9–47.5% of participants).

3.2 Associations between patient characteristics and weight stigma

Older age correlated negatively with perceived weight stigma ($r = -0.162$, $p < 0.001$; Table 3). Higher BMIs ($r = 0.266$, $p < 0.001$) and having one or more chronic illness, excluding obesity, correlated positively with perceived weight stigma ($r = 0.188$, $p < 0.001$). These correlations remained significant after adjusting for other variables in the multivariate model. The IRRs were used to interpret the effects of significant predictor variables. For age, the IRR of 0.98 revealed that for every one-year increase in age, the incidence rate of reporting weight stigma decreased by approximately 2%. Obesity class IRRs indicated that individuals living with class II obesity were about 1.88 times more likely to report weight stigma compared to class I, while those with class III obesity were about 4.57 times more likely compared to class I. Finally, individuals with one or more chronic illness, excluding obesity, were about 2.07 times more likely to report weight stigma compared to those without additional chronic illnesses. No significant associations were observed between perceived weight stigma and sex, marital status, or education level.

3.3 Person-centred care

Perceived weight stigma correlated negatively with PCC ($r = -0.308$, $p < 0.001$; Table 4). Across obesity classes, greater perceived weight stigma was associated with lower PCC scores. These correlations remained significant after applying a Bonferroni adjustment ($\alpha = 0.013$). The correlation coefficient was slightly stronger for obesity class III ($r = -0.400$, $p < 0.001$) compared to class I ($r = -0.311$, $p < 0.001$) and class II ($r = -0.289$, $p = 0.002$). After controlling for patient characteristics in the multivariate model and applying a Bonferroni correction (α = 0.006), perceived weight stigma was the only significant predictor of PCC (B = -0.04, p < 0.001; Table 5).

Table 3. Correlation and regression coefficients between patient characteristics and perceived weight stigma (SSHC score) among patient living with obesity (N = 590).

	Spearman correlation		Negative binomial model		
	r	p	B(SE)	Incidence rate ratio (95% CI)	p
Sex (female)	0.065	0.116	0.17 (0.10)	1.186 (0.968, 1.455)	0.100
Age	-0.162	< 0.001	-0.02 (0.01)	0.980 (0.972, 0.988)	< 0.001
Marital status (single)	0.028	0.500	0.05 (0.11)	1.048 (0.852, 1.290)	0.654
Education[a]	0.026	0.535			
Intermediate			0.01 (0.12)	1.007 (0.791, 1.281)	0.956
High			-0.11 (0.13)	0.896 (0.691, 1.160)	0.403
BMI[b]	0.266	< 0.001			
35 to <40 kg/m^2 (class II obesity)			0.63 (0.12)	1.878 (1.480, 2.380)	< 0.001
≥40 kg/m^2 (class III obesity)			1.52 (0.19)	4.572 (3.180, 6.573)	< 0.001
Chronic illness[c] (one or more)	0.188	< 0.001	0.73 (0.11)	2.073 (1.672, 2.570)	< 0.001

Abbreviations: BMI, body mass index; SSHC, Stigmatizing Situations in Healthcare. [a]Reference group = low education. [b]Reference group = 30 to <35 kg/m^2 (class I obesity). [c]Other than obesity.

Table 4. Spearman correlation coefficients between perceived weight stigma (SSHC score) and PCC by obesity class (N = 590).

		Person-centred care		
		n	r	p
SSHC		590	-0.308	< 0.001
	BMI			
	30 to <35 (class I obesity)	426	-0.311	< 0.001
	35 to <40 (class II obesity)	124	-0.289	0.002
	≥40 (class III obesity)	40	-0.400	0.012

Abbreviations: BMI, body mass index; SSHC, Stigmatizing Situations in Healthcare.

Table 5. Relationship between perceived weight stigma (SSHC score) and PCC, while controlling for patient characteristics, among patient living with obesity (N = 590).

	Person-centred care		
	B	SE	p
Intercept	3.819	0.127	< 0.001
Sex (female)	0.045	0.046	0.329
Age	0.001	0.002	0.463
Marital status (single)	-0.059	0.050	0.238
Education[a]			
Intermediate	-0.076	0.057	0.187
High	0.012	0.060	0.841
BMI[b]			
35 to <40 kg/m^2 (class II obesity)	0.065	0.058	0.264
≥40 kg/m^2 (class III obesity)	0.231	0.102	0.024
Chronic illness[c] (one or more)	0.073	0.049	0.141
SSHC	-0.040	0.004	< 0.001

Abbreviations: BMI, body mass index; SSHC, Stigmatizing Situations in Healthcare. [a]Reference group = low education. [b]Reference group = 30 to <35 kg/m^2 (class I obesity). [c]Other than obesity.

DISCUSSION

This study investigated the frequency and nature of weight-stigmatizing experiences in healthcare settings reported by patients living with obesity. The percentage of patients who had encountered weight stigma ranged from 41% for those living with class I obesity to 59% and 80% for classes II and III, respectively. Younger age, greater obesity severity, and the presence of one or more chronic illness, excluding obesity, were associated with greater perceived weight stigma. Greater perceived weight stigma was associated with lower PCC, underscoring the significant role of weight stigma in the healthcare experiences of patients living with obesity.

Consistent with previous studies,[17,18] the most commonly reported experiences in this study were related to how the subject of weight loss was approached, such as healthcare professionals' provision of unsolicited dieting advice or instruction that patients lose weight without the offering of treatment options. Despite notable differences in the reported frequency, these types of experiences were reported by patients across obesity classes. While the discussion of weight may be important to improve patient outcomes, patients often perceive that such conversations are not tailored to their specific needs and that healthcare professionals may offer recommendations based on oversimplified assumptions about obesity.[34,35] For instance, simply advising weight loss to patients who have been struggling with weight management for a long time without providing any form of support may indicate to the patients that professionals do not appreciate the complexity of their situations, leading them to feel dissatisfied and misunderstood. On the other side, healthcare professionals often feel unequipped to address weight issues with patients and may avoid the topic altogether or fail to provide appropriate support.[36] For professionals seeking guidance in initiating conversations about weight, there are solutions like the "5As of obesity management" approach, which begins by seeking permission from patients to discuss weight.[37] The implementation of such an approach is supported by a recent study, revealing that among 1697 individuals living with overweight or obesity, the majority preferred that healthcare professionals ask permission to talk about weight.[38]

The most frequently reported experience in this study was healthcare professionals' attribution of physical problems, which patients perceived to be unrelated, to their weight. This experience is not uncommon among patients living with obesity. Research indicates that patients with higher weights may receive less consultation time from physicans.[39] This may reflect a tendency to assess patients primarily based on their weight. The frequent reporting of healthcare professionals linking weight to unrelated problems may also indicate that patients have limited awareness about the connections between obesity and numerous medical conditions, including cardiovascular disease, type 2 diabetes, various types of cancer, and many other health concerns.[40] Clinical guidelines recommend that patients should be informed about their illness and educated about associated health risks, which may include discussions about weight as a modifiable factor.[41] However, our findings suggest that patients may perceive such discussions as unwarranted and stigmatizing. Thus, healthcare professionals must communicate in a supportive manner that enables patients to understand the potential links between their weight and health complaints. They may benefit from training that enhances their communication skills, particularly when discussing weight with patients living with obesity. A review highlighting effective strategies to minimizing weight stigma in healthcare underscores the importance of systematically addressing this issue in healthcare education and practice.[42] Recommended interventions include prioritizing early and continuous education for healthcare students, with an emphasis on the complex and multifactorial aetiology of obesity, and the explicit integration of discussions about weight stigma and its consequences.

Notable differences in reported weight stigma were observed among the different obesity classes, with a clear trend of increased likelihood of perceived weight stigma as obesity severity increased from class I to class III. This aligns with previous findings that patients living with more severe obesity face greater weight stigma in healthcare.[17–20,23] When examining the nature of reported experiences within obesity classes, a broader range of experiences is observed among patients living with class III obesity. This included more frequent reports of negative remarks or ridicule, being treated as less competent or lazy, and facing issues related to healthcare environments, such as inadequately sized chairs or ill-fitting equipment. Similar experiences have been extensively documented, with examples ranging from demeaning and embarrassing interactions to dismissal and inaccessible healthcare environments.[2,15,31,43] Given the limited sample of patients living with class III obesity, caution is necessary in interpreting the reported frequencies in this study. Nonetheless, the findings offer valuable insight into the various forms of weight stigma that these patients may encounter, and suggest that actions need to be taken across healthcare domains to improve these patients' care experiences.

Additionally, this study revealed a link between chronic illness and perceived weight stigma. An explanation could be that these patients spend more time in healthcare settings, increasing their exposure to stigmatizing experiences. Another explanation may be that individuals with multiple medical conditions face more weight stigma due to the cumulative effects of having multiple stigmatized conditions. For instance, a study involving patients dealing with both obesity and chronic pain revealed that some patients felt shame following interactions with healthcare professionals who blamed them for both health issues.[44] Importantly, the study's cross-sectional design prevents the drawing of conclusions about the directionality of the observed association, which may also reflect the harmful effects of weight stigma on physical health.[45] Finally, younger age was associated with greater weight stigma in this study, adding to prior evidence concerning this connection.

After adjusting for patient characteristics, greater perceived weight stigma in healthcare settings was associated with lower PCC. This finding aligns with existing evidence highlighting the harmful effects of weight stigma on the healthcare experiences and quality of care of patients living with obesity.[15,16] PCC has been established as a pillar of high-quality care and may be particularly significant for patients living with obesity, given their complex and heterogenous support needs.[13,46] However, our findings suggest that weight stigma hinders the provision of PCC to this population, underscoring the urgency to combat weight stigma within healthcare settings.

This study has several limitations. First, due to the cross-sectional study design, we were unable to establish the causality of the relationships observed. Second, given that weight stigma is believed to have a more significant impact on the care provided to patients living with severe obesity, the strength of the observed associations may have been affected by the limited number of patients living with class III obesity in the sample. Additional research with a larger population is needed to confirm our findings. Additionally, BMI was calculated using self-reported height and weight, collected roughly 6 months earlier. Despite cross-verifying outliers using data from previous waves, we cannot exclude the potential of misclassifications in obesity severity due to measurement errors or BMI changes during this period. Finally, a considerable number of participants reported having had no encounter with weight stigma in a healthcare setting. The SSHC items may not have captured certain distinct or context-specific experiences of weight stigma, potentially leading to the underestimation of the frequency of weight-stigmatizing experiences. To capture the full range and depth of patients' experiences with weight stigma in healthcare settings, additional data collection methods such as qualitative interviewing may be required.

CONCLUSION

This cross-sectional study outlines the prevalent and varied experiences of weight stigma in healthcare settings among patients living with obesity. The findings emphasize the significant role of weight stigma in shaping the healthcare experiences of these patients. Addressing weight stigma is expected to improve PCC and the overall quality of care for those dealing with obesity. Effectively minimizing weight stigma will likely require comprehensive efforts across healthcare domains. Increasing awareness among healthcare professionals about the importance of sensitive and supportive communication in weight-related discussions seems to be particularly important.

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APPENDIX

Table A1. Correlation and regression coefficients between patient characteristics and perceived weight stigma (SSHC score) among patient living with obesity based on complete-case analysis (n = 571).

	Spearman correlation		Negative binomial model		
	r	p	B(SE)	Incidence rate ratio (95% CI)	p
Sex (female)	0.061	0.143	0.18 (0.11)	1.200 (0.977, 1476)	0.083
Age	-0.158	< 0.001	-0.02 (0.01)	0.98 (0.972, 0.987)	< 0.001
Marital status (single)	0.036	0.384	0.04 (0.11)	1.044 (0.847, 1.286)	0.688
Education[a]	0.017	0.681			
Intermediate			0.01 (0.12)	1.003 (0.787, 1.278)	0.981
High			-0.14 (0.13)	0.872 (0.674, 1.127)	0.295
BMI[b]	0.271	< 0.001			
35 to <40 kg/m^2 (class II obesity)			0.65 (0.12)	1.905 (1.499, 2.421)	< 0.001
≥40 kg/m^2 (class III obesity)			1.54 (0.19)	4.645 (3.206, 6.729)	< 0.001
Chronic illness[c] (one or more)	0.196	< 0.001	0.76 (0.11)	2.144 (1.727, 2.660)	< 0.001

Abbreviations: BMI, body mass index; SSHC, Stigmatizing Situations in Healthcare. [a]Reference group = low education. [b]Reference group = 30 to <35 kg/m^2 (class I obesity). [c]Other than obesity.

Table A2. Spearman correlation coefficients between perceived weight stigma (SSHC score) and PCC by obesity class based on complete-case analysis (n = 429).

		Person-centred care	
	n	r	p
SSHC	429	-0.366	< 0.001
BMI			
30 to <35 (class I obesity)	304	-0.380	< 0.001
35 to <40 (class II obesity)	94	-0.320	< 0.001
≥40 (class III obesity)	31	-0.327	0.073

Abbreviations: BMI, body mass index; SSHC, Stigmatizing Situations in Healthcare.

Table A3. Relationship between perceived weight stigma (SSHC score) and PCC, while controlling for patient characteristics, among patient living with obesity based on complete-case analysis (n = 422).

	Person-centred care		
	B	SE	p
Intercept	3.833	0.156	< 0.001
Sex (female)	0.050	0.056	0.376
Age	0.001	0.002	0.713
Marital status (single)	-0.028	0.058	0.625
Education[a]			
Intermediate	-0.068	0.068	0.319
High	-0.021	0.073	0.778
BMI[b]			
35 to <40 kg/m^2 (class II obesity)	0.057	0.069	0.407
≥40 kg/m^2 (class III obesity)	0.214	0.123	0.081
Chronic illness[c] (one or more)	0.056	0.060	0.354
SSHC	-0.040	0.004	< 0.001

Abbreviations: BMI, body mass index; SSHC, Stigmatizing Situations in Healthcare. [a]Reference group = low education. [b]Reference group = 30 to <35 kg/m^2 (class I obesity). [c]Other than obesity.

CHAPTER 5

The relationship between person-centred care and well-being and satisfaction with care of patients living with obesity

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ABSTRACT

Introduction

Person-centred care (PCC) is associated with improved patient well-being and higher levels of satisfaction with care but its impact on individuals living with obesity is not well-established. The main aim of this study was to assess the relationship between PCC and the physical and social well-being of patients living with obesity, as well as their satisfaction with care.

Methods

This study is based on a cross-sectional, web-based survey administered among a representative panel of Dutch individuals living with obesity. The primary outcomes were physical and social well-being and satisfaction with care. The primary exposure was a rating of overall PCC, encompassing its eight dimensions. In addition, covariates considered in the analyses included sex, age, marital status, education level, BMI, and chronic illness. The data from a total of 590 participants were analysed using descriptive statistics, correlation analyses, and multiple regression analyses.

Results

Among PCC dimensions, participants rated 'access to care' the highest (M 4.1, SD 0.6), while 'coordination of care' (M 3.5, SD 0.8) was rated lower than all other dimensions. Participants' overall PCC ratings were positively correlated with their physical ($r = 0.255$, $p < 0.001$) and social well-being ($r = 0.289$, $p < 0.001$) and their satisfaction with care ($r = 0.788$, $p < 0.001$), as were the separate dimension scores. After controlling for sex, age, marital status, education level, BMI, and chronic illness in the regression analyses, participants' overall PCC ratings were positively related to their physical ($\beta = 0.24$, $p < 0.001$) and social well-being ($\beta = 0.26$, $p < 0.001$), and satisfaction with care ($\beta = 0.79$, $p < 0.001$).

Conclusion

PCC holds promise for improved outcomes among patients living with obesity, both in terms of physical and social well-being, as well as satisfaction with care. This is an important finding, particularly when considering the profound physical, social, and psychological consequences associated with obesity. In addition to highlighting the potential benefits of PCC in the healthcare of individuals living with obesity, the findings offer valuable insights into strategies for further refining the provision of PCC to meet the specific needs of these patients.

INTRODUCTION

The number of people living with obesity worldwide has nearly tripled since 1975 and continues to grow at a fast pace.[1] According to recent global estimates, obesity now affects more than a billion people worldwide.[2] Obesity is classified as a chronic, relapsing disease since it tends to persists over time, often requiring ongoing management due to the high probability of weight regain even after successful weight loss attempts.[3] The development of obesity is usually a result of complex interactions among various genetic, behavioural, and environmental factors.[4] Obesity can have a strong impact on quality of life, with profound implications for the physical and social well-being of individuals.[5] These impacts are particularly notable for individuals living with more severe obesity and those managing multiple chronic conditions.[6]

The physical consequences of obesity can be significant, giving rise to a wide range of issues that can cause discomfort and hinder participation in physical or social activities.[7] Some of the commonly reported physical problems are difficulties with mobility, chronic pain, respiratory issues, skin conditions, fatigue, and poor sleep quality.[7–10] Furthermore, obesity serves as a major risk factor for the development or worsening of other chronic health conditions, including cardiometabolic diseases, musculoskeletal disorders, some types of cancer, and mental disorders, that further implicate health and well-being.[10,11]

On top of physical challenges, many individuals living with obesity are subject to social stereotypes, prejudice, and unfair treatment because of their weight.[12] This phenomenon, known as weight stigma, seems to be most pervasive towards individuals living with severe obesity but it can affect anyone with excess body weight. Weight stigma is prevalent across many important life domains, such as personal relationships, education, employment, and healthcare.[13] Weight stigma can have detrimental effects on both physical and social well-being through various mechanisms, including increased exposure to stress, decreased quality and quantity of social relationships, compromised access to high-quality health care, and a decline in socioeconomic status due to reduced opportunities and resources.[14] Moreover, perceiving weight stigma can trigger a weight-related social identity threat, causing individuals to become hyper-vigilant about potential rejection, resulting in social withdrawal, avoidance of health services, and other negative impacts on health and well-being.[15]

Healthcare systems often fall short in effectively addressing the well-being concerns of patients living with obesity.[16] The current approach to care for these patients often revolves around tackling acute medical problems and recommending measures for weight reduction. This limited focus often results in short-term solutions that fail to address any underlying issues affecting patients' well-being and hindering their weight loss efforts. As a result, patients commonly express dissatisfaction with their care, experiencing it as fragmented and ineffective, as their broader well-being concerns remain insufficiently addressed.[17]

In an attempt to better meet the support needs of individuals with complex chronic conditions, many health systems are now moving towards a person-centred approach in which care is tailored to the specific preferences, goals, and circumstances of each individual. The Institute of Medicine defines person-centred care (PCC) as "care that is respectful of and responsive to individual patient preferences, needs and values; and ensuring that patient values guide all clinical decisions."[18] Extensive research identified eight broad dimensions of PCC that capture what is generally most important to patients: respect for patients' preferences, physical comfort, the coordination of care, emotional support, access to care, the continuity of care, the provision of information and education, and the involvement of family and friends.[19] A review of PCC and its outcomes in 2013 clearly showed that organizations investing in these dimensions report more positive outcomes, such as greater patient well-being and satisfaction with care.[20] While the review included studies in various care settings and patient groups (e.g., diabetes care, cancer patients), it lacked studies within the context of obesity. To date, there remains a scarcity of data on PCC in obesity management, resulting in limited knowledge of its impact on patients living with obesity. While there are some articles on PCC for the management of obesity, they primarily focus on childhood obesity or are limited to case studies.[21,22] Despite the anticipated benefits of PCC for patients living with obesity, the relationship between PCC's eight dimensions and outcomes for this patient population remains unexplored.

This study aimed to address this knowledge gap by investigating the relationship between PCC and the physical and social well-being of patients living with obesity, as well as their satisfaction with care. Within a nationally representative sample, our objectives were to 1) explore participants' experiences with PCC; 2) determine bivariate associations of participants' PCC experiences and background characteristics to their levels of physical well-being, social well-being, and satisfaction with care; and 3) assess multivariate relationships between PCC experiences and participants' levels of physical well-being, social well-being, and satisfaction with care, while controlling for background characteristics. We hypothesized that greater PCC would be positively related to all three primary outcome variables.

METHODS

Study design

Our study was based on a cross-sectional, web-based survey administered by the Longitudinal Internet Studies for the Social sciences (LISS) panel (https://www.centerdata.nl/en/liss-panel). The panel is managed by Centerdata, an independent non-profit research institute affiliated with Tilburg University. The panel is based on true probability sample of households drawn from the Dutch population register by Statistics Netherlands. In 2022, the panel consisted of roughly 6500 individuals from about 4700 households. The panel members are compensated for participating in monthly web-based surveys, with necessary resources provided for households without a computer or internet access. The panel abides by the European "General Data Protection Regulation (GDPR)" and complies with all relevant ethical regulations.

Setting and participants

The target population of the study were individuals aged 18 years or older with obesity, defined as a body mass index (BMI) of at least 30 kg/m2. In July 2022, the survey was distributed among all panel members meeting these criteria (n = 896), yielding a total of 732 responses (82% response rate). BMI was based on participants' most recent weight and height measurements, retrieved from a longitudinal survey fielded in November and December of each year. We verified any outliers in the data, resulting in the exclusion of five cases with incorrect BMI values. Given our interest in participants' experiences with PCC, 130 cases who indicated 'I do not know / not applicable' to all PCC-related items were excluded. Finally, an analysis of survey completion times led to the exclusion of seven cases who completed the questionnaire faster than was deemed possible for meaningful responses. The final sample included 590 participants, which was considered sufficient to detect small to medium effects with a 95% confidence level and 80% power.

Measures

To assess PCC, the survey included the 40-item person-centred obesity care (PCOC) instrument that assesses the eight dimensions of PCC (patients preferences, physical comfort, coordination of care, emotional support, access to care, continuity of care, information and education, and family and friends) among patients living with obesity.[23] The PCOC is designed to be applicable across various care settings. Responses were given on a 5-point Likert scale from 1 (totally disagree) to 5 (totally agree). To minimize response bias, we allowed participants to select 'I do not know / not applicable' as well. Average dimension scores were calculated if ≥60% of the items were completed (all Cronbach's α ≥0.87). Overall PCC ratings were calculated by averaging dimension scores for participants with at least five scores (Cronbach's α = 0.92). Scores ranged from 1 to 5, with higher scores indicating better PCC.

The primary study outcomes were well-being and satisfaction with care. Well-being was assessed using the 15-item Social Production Function Instrument for the Level of Well-being (SPF-ILs), which measures both physical (comfort and stimulation) and social well-being (status, behavioural confirmation, and affection).[24] Responses were given on a 4-point Likert scale from 1 (never) to 4 (always). Scores were averaged separately for physical (Cronbach's α = 0.77) and social well-being (Cronbach's α = 0.83), with higher scores (range 1–4) indicating greater well-being.

Satisfaction with care was assessed using a 6-item version[25] of the Satisfaction with Stroke Care questionnaire (SASC).[26] This scale was originally developed to evaluate satisfaction with inpatient care among stroke patients but has since been used to assess general satisfaction with care among various patient populations. Minor adjustments were made to the items (e.g., replacing 'doctors' with 'healthcare professionals'). The resulting items were: 'I have received all the information I want about the causes and nature of my health condition(s)', 'The healthcare professionals have done everything they can to improve my situation', 'I am satisfied with the type of care and support they have given me', 'I have had enough care and support', 'I am happy about the effects of the care and support on the progression of my condition(s)', and 'I am satisfied with the care and support that was provided'. Responses were given on a 4-point Likert scale from 1 (totally disagree) to 4 (totally agree) and scores were averaged across items (Cronbach's α = 0.96), with higher scores (range 1–4) indicative of higher satisfaction with care.

In addition, we obtained information on participants' socio-demographic profile (sex, age, marital status, education level) and BMI. Participants also reported on chronic illness using a validated inventory of 10 chronic conditions (e.g., type 2 diabetes or cardiovascular disease) and an option to disclose unlisted conditions.[27]

Data analysis

SPSS version 29 was used to perform the analyses. Dummy variables were created for marital status (living together with a partner [0], single [1]), education (low = primary or lower vocational, intermediate = secondary or intermediate vocational, high = higher vocational or university), and chronic illness (no chronic conditions [0], one or more chronic condition [1]). Descriptive statistics included frequencies and percentages for categorical variables and mean and standard deviation for continuous measures. For continuous measures deviating from normality, the median and inter-quartile range is reported. To explore intragroup differences between PCC dimensions, a repeated measures ANOVA with Huynh-Feldt-correction was performed, followed by Bonferroni-adjusted pair-wise comparisons. Bivariate associations among PCC and participants' background characteristics, level of well-being, and satisfaction with care were identified using Pearson or Spearman correlation analysis, as appropriate. Correlations were classified as low ($r \approx 0.10$–0.29), moderate ($r \approx 0.30$–0.49), or high ($r \approx \geq 0.50$). To investigate multivariate relationships among PCC and participants' physical and social well-being and satisfaction with care, while controlling for background variables, multiple regression analyses were performed. Assumptions of linear models (linearity, homoscedasticity, multicollinearity, multivariate normality, spurious outliers) were assessed and no large violations were observed. Statistical significance was set at two-sided 0.05, Bonferroni-adjusted alpha levels are reported for multiple comparisons. An analysis of missing values (items with a >5% "not applicable" response) revealed that participants without comorbid conditions had more missing data on some care-related items. In addition to standard complete-case analysis (Supplementary Material 1), multiple imputation was used to estimate the overall association between PCC and participants' physical and social well-being and satisfaction with care. The Markov Chain Monte Carlo algorithm was used to impute missing values twenty times with 50 iterations. Predictive mean matching was used as the imputation method.

RESULTS

Table 1 presents the descriptive statistics of the study sample. On a 1-to-5 scale, the mean overall PCC rating was 3.8 (SD 0.6). Participants rated 'access to care' (M 4.1, SD 0.6) the highest, followed by 'patient preferences' (M 4.0, SD 0.7), 'physical comfort' (M 3.9, SD 0.7), 'continuity of care' (M 3.8, SD 0.8), 'information and education' (M 3.8, SD 0.7), 'family and friends' (M 3.7, SD 0.8), and 'emotional support' (M 3.7. SD 0.8), and 'coordination of care' (M 3.5, SD 0.8). A repeated measures ANOVA with Huynh-Feldt correction indicated significant differences in PCC scores across dimensions ($F(5.662, 3334.781) = 97.473$, $p < 0.001$). Bonferroni-adjusted post-hoc comparisons revealed significant differences between most dimension scores, except those more closely aligned, such as patient preferences and physical comfort. Notably, participants rated 'access to care' significantly higher than all other dimensions, while 'coordination of care' was rated lower than all other dimensions (all $p < 0.001$). On a 1-to-4 scale, mean physical and social well-being scores were 2.6 (SD 0.5) and 2.7 (SD 0.5), respectively. Lastly, on a 1-to-4 scale, the mean satisfaction with care score was 3.0 (SD 0.6).

Table 1. Descriptive statistics of the study sample (N = 590).

Characteristic	Range	n (%) or mean (SD)
Sex (female)		337 (57.1%)
Age	18–92	59.22 (14.85)
Marital status (single)		202 (34.2%)
Education		
Low		196 (33.2%)
Intermediate		216 (36.6%)
High		178 (30.2%)
BMI[1]	30–59	33.37 (3.88); 32 (31-35)
Chronic illness (other than obesity)[2]		355 (60.2%)
Person-centred care[3]	1.8–5	3.83 (0.59)
Patient preferences[3]	1.6–5	4.02 (0.66)
Physical comfort[3]	1–5	3.94 (0.72)
Coordination of care[3]	1–5	3.48 (0.87)
Emotional support[3]	1–5	3.67 (0.84)
Access to care[3]	2–5	4.11 (0.55)
Continuity of care[3]	1–5	3.83 (0.75)
Information and education[3]	1–5	3.80 (0.67)
Family and friends[3]	1–5	3.71 (0.82)
Physical well-being[4]	1.3–4	2.63 (0.51)
Social well-being[4]	1.4–4	2.67 (0.47)
Satisfaction with care[4]	1–4	2.99 (0.58)

Abbreviations: BMI, body mass index. [1]Reported as mean (SD); median (interquartile range). [2]Diabetes, cardiovascular diseases, heart failure, lung diseases, cancer, arthrosis, osteoporosis, chronic joint inflammation, depression, anxiety, or any unlisted chronic illness. [3]Measured on a scale of 1 to 5. [4]Measured on a scale of 1 to 4.

Participants overall PCC ratings correlated positively with their levels of physical and social well-being and their satisfaction with care (all $p < 0.001$). A low-to-moderate correlation was found between PCC and physical ($r = 0.255$) and social well-being ($r = 0.289$), whereas PCC and satisfaction with care highly correlated ($r = 0.788$). Additionally, some of the background characteristics demonstrated low correlations with participants' physical and social well-being, but not their satisfaction with care (Table 2; all $p < 0.001$). Participants' age correlated positively with their physical ($r = 0.145$) and social well-being ($r = 0.143$), whereas single marital status correlated negatively with physical ($r = -0.161$) and social well-being ($r = -0.170$). BMI ($r = -0.183$) correlated negatively with participants' physical well-being, as did the presence of one or more comorbid conditions (e.g., type 2 diabetes or cardiovascular disease; r = -0.204).

All PCC dimensions correlated significantly and positively with participants' physical well-being, social well-being, and satisfaction with care (all $p < 0.001$; Table 3). Correlations with physical well-being and social well-being were relatively low in magnitude, while correlations with satisfaction with care were high.

The included covariates together explained 11% and 7% of the variance in participants' physical ($R^2_{adj} = 0.11$) and social well-being ($R^2_{adj} = 0.07$), respectively (both $P < 0.001$). The covariates did not explain any of the variance in satisfaction with care. The addition of PCC in the models explained an additional 4% ($R^2_{adj} = 0.15$), 7% ($R^2_{adj} = 0.14$), and 62% ($R^2_{adj} = 0.62$) of the variance in physical well-being, social well-being, and satisfaction with care, respectively (Table 4). In the adjusted models, PCC was positively related to all primary outcomes: physical well-being ($\beta = 0.24$), social well-being ($\beta = 0.26$), and satisfaction with care ($\beta = 0.79$, all $p < 0.001$). Additionally, age ($\beta = 0.14$) and chronic illness ($\beta = -0.21$) were significant covariates for physical well-being, whereas age ($\beta = 0.15$) and single marital status ($\beta = -0.16$) were significant covariates for social well-being (all $p < 0.001$). Marital status and BMI showed significant associations with physical well-being in the bivariate analysis, but not in the adjusted multivariate analysis.

Table 2. Bivariate associations of patient characteristics and person-centred care to physical and social well-being and satisfaction with care among patients living with obesity.

	Physical well-being		Social well-being		Satisfaction with care	
Characteristic	r	p	r	p	r	p
Sex (female)	-0.080	0.05	0.067	0.11	-0.036	0.40
Age	0.145	< 0.001*	0.143	< 0.001*	0.087	0.04
Marital status (single)	-0.161	< 0.001*	-0.170	< 0.001*	0.007	0.86
Education	0.038	0.36	0.079	0.06	-0.028	0.52
BMI	-0.183	< 0.001*	-0.043	0.30	-0.057	0.19
Chronic illness (other than obesity)[1]	-0.204	< 0.001*	-0.075	0.07	0.011	0.82
Person-centred care	0.255	< 0.001*	0.289	< 0.001*	0.788	< 0.001*

Abbreviations: BMI, body mass index. [1]Diabetes, cardiovascular diseases, heart failure, lung diseases, cancer, arthrosis, osteoporosis, chronic joint inflammation, depression, anxiety, or any unlisted chronic illness.

*Significant at Bonferroni adjusted $\alpha = 0.007$

Table 3. Bivariate associations of person-centred care dimensions to physical and social well-being and satisfaction with care among patients living with obesity.

	Physical well-being		Social well-being		Satisfaction with care	
Person-centred care dimensions	r	p	r	p	r	p
Patient preferences	0.207	< 0.001*	0.253	< 0.001*	0.628	< 0.001*
Physical comfort	0.184	< 0.001*	0.215	< 0.001*	0.526	< 0.001*
Coordination of care	0.229	< 0.001*	0.242	< 0.001*	0.656	< 0.001*
Emotional support	0.175	< 0.001*	0.228	< 0.001*	0.636	< 0.001*
Access to care	0.160	< 0.001*	0.203	< 0.001*	0.499	< 0.001*
Continuity of care	0.234	< 0.001*	0.230	< 0.001*	0.703	< 0.001*
Information and education	0.219	< 0.001*	0.248	< 0.001*	0.732	< 0.001*
Family and friends	0.167	< 0.001*	0.193	< 0.001*	0.502	< 0.001*

*Significant at Bonferroni adjusted α = 0.006

Table 4. Relationships of patient characteristics and person-centred care to physical and social well-being and satisfaction with care among patients living with obesity.

	Physical well-being		Social well-being		Satisfaction with care	
Variable	β (SE)	p	β (SE)	p	β (SE)	p
Sex (female)	-0.04 (0.04)	0.32	0.10 (0.04)	0.01	-0.04 (0.03)	0.12
Age	0.14 (0.0)	<.001*	0.15 (0.0)	<.001*	0.0 (0.0)	0.91
Marital status (single)	-0.12 (0.04)	0.01	-0.16 (0.04)	<.001*	0.04 (0.04)	0.11
Education[1]						
Low	-0.04 (0.05)	0.42	-0.12 (0.05)	0.01	0.02 (0.04)	0.39
Intermediate	0.01 (0.05)	0.76	-0.12 (0.04)	0.01	0.02 (0.04)	0.47
BMI	-0.10 (0.01)	0.01	-0.01 (0.0)	0.82	-0.02 (0.0)	0.44
Chronic illness (other than obesity)[2]	-0.21 (0.04)	<.001*	-0.09 (0.04)	0.03	0.0 (0.04)	0.86
Person-centred care	0.24 (0.03)	<.001*	0.26 (0.03)	<.001*	0.79 (0.03)	<.001*
Adjusted R^2	0.15[3]		0.14[4]		0.62[5]	

Abbreviations: BMI, body mass index. [1]Reference group = high education. [2]Diabetes, cardiovascular diseases, heart failure, lung diseases, cancer, arthrosis, osteoporosis, chronic joint inflammation, depression, anxiety, or any unlisted chronic illness. [3]Adjusted R^2 covariates = 0.11. [4]Adjusted R^2 covariates = 0.07. [5]Adjusted R^2 covariates = 0.00.

*Significant at Bonferroni adjusted α = 0.006

DISCUSSION

Statement of principal findings

This study aimed to 1) explore the PCC experiences of patients living with obesity; 2) determine bivariate associations of participants' PCC experiences and background characteristics to their physical and social well-being and satisfaction with care; and 3) assess multivariate relationships between participants' PCC experiences and levels of physical and social well-being and satisfaction with care, while controlling for background characteristics. In a representative national sample, we found a high association of participants' PCC experiences to their satisfaction with care, and low-to-moderate associations to their levels of physical and social well-being. In the adjusted multivariate analysis, we found positive relationships between PCC and all primary outcomes. This study thus showed that among patients living with obesity, experiencing greater PCC was related to increased satisfaction with care and greater physical and social well-being.

Interpretation within the context of the wider literature

We found a stronger association between PCC and satisfaction with care compared to physical and social well-being. This difference is understandable when considering the nature of the different constructs. Previous research shows that satisfaction with care is primarily determined by health service characteristics.[28] While many studies have explored person-related factors in this context, the results have been inconclusive due to high variability in the findings. In our study, none of the background variables serviced as significant for patients' satisfaction with care. In contrast, the physical and social well-being of individuals is shaped by a broad range of factors.[24] It is therefore not surprising that we found several links between patients' background variables – such as age, marital status, and chronic illness – and their well-being outcomes. Interestingly, even after accounting for these variables, we still found a positive relationship between PCC and both physical and social well-being, suggesting that PCC may be an effective strategy for improving these patients' well-being outcomes. This is an important finding, given the profound physical, social, and psychological implications of obesity, which can vary greatly among individuals.

Participants rated coordination of care lower compared to other PCC dimensions. Effectively addressing obesity poses certain challenges due to its multifactorial nature and the broad range of clinical presentations and associated comorbidities. This lower rating may reflect the challenges and shortcomings in the integration and organization of care services, which are frequently reported by patients living with obesity.[29] As a consequence of poor coordination, patients may experience fragmented care, where healthcare professionals from different disciplines involved in the care delivery struggle to communicate and collaborate effectively. This, in turn, can lead to critical issues such as missed information, misdiagnoses, and misunderstandings about the patients' needs and preferences. Furthermore, our findings suggest that there may be room for improvement in other dimensions of care, such as the provision of emotional support and the involvement of family and friends. Current best practice in treating obesity prioritize long-term, sustainable changes, in which addressing psychosocial factors is considered a critical component.[11] Finally, participants in our study rated access to care higher than other dimensions. This could indicate that in this setting, few barriers were experienced in terms of accessing healthcare services. This contrasts with a recent study in England, where access to care was particularly low among people living with overweight and obesity, highlighting the variability in healthcare experiences across different geographical areas.[30] Notably, both studies found a lower rating for emotional support, suggesting that this may be an overlooked aspect of obesity care, warranting greater attention from healthcare providers and policy makers.

Strengths and limitations

There were several strengths and limitations. First, the cross-sectional design of this study does not permit the establishment of causal relationships, warranting further research to evaluate the outcomes of PCC for patients living with obesity. Dynamic relationships between PCC and patient's well-being and satisfaction with care cannot be excluded. Second, the study reported an average BMI of 33.4 (SD 3.9) kg/m^2, but lacked information regarding waist circumference, an important marker of the amount of abdominal fat mass. This mean BMI suggests that the majority of participants fell into the categories of first- or second-class obesity. While this distribution aligns with that of the broader population, ensuring greater applicability of our findings, it is important to note that many studies have demonstrated that the consequences of obesity are most significant for those living with the most severe forms of obesity. Therefore, further investigation into how PCC relates to patient outcomes within this specific subgroup could reveal valuable insights. Furthermore, since this study relied on self-reported data, there was potential for reporting bias. To mitigate this risk, several measures were implemented. Outliers in BMI, for example, were cross-referenced, and participants were given the option to answer 'I do knot know / not applicable' for certain items to enhance the data's reliability. Despite these limitations, there is sparse data on PCC for patients living with obesity, and this study is the first to document the importance of the eight dimensions of PCC for these important patient outcomes.

Implications for policy, practice and research

By considering the diverse circumstances of each individual, PCC allows for a more comprehensive understanding of patients and their support needs. Our findings suggests that such an approach holds promise for more effective care and improved outcomes among patients living with obesity. However, further research is necessary to establish causal relationships and gain deeper insights into the benefits and potential mechanisms through which PCC can positively influence the well-being and care experiences of patients living with obesity.

The current study suggests that addressing issues that stand in the way of coordinating and integrating health services may be particularly beneficial for improving the care for patients living with obesity, as well as enhancing other aspects of PCC, such as the provision of emotional support. These insights could be used by healthcare professionals and policy makers aiming to improve obesity care.

CONCLUSIONS

In a cross-sectional, web-based survey among individuals living with obesity, we demonstrate that PCC is associated positively with both physical and social well-being, as well as with satisfaction with care. These findings are important given the considerable impact of obesity on the well-being of those living with obesity. The results underscore the potential benefits of prioritizing person-centred approaches in the healthcare of individuals living with obesity and provide valuable insight for improving the delivery of PCC to this specific patient population.

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APPENDIX

Table A1. Relationships of patient characteristics and person-centred care to physical and social well-being and satisfaction with care among patients living with obesity based on complete-case analysis.

	Physical well-being		Social well-being		Satisfaction with care	
Variable	β (SE)	p	β (SE)	p	β (SE)	p
Sex (female)	-0.02 (0.05)	0.74	0.19 (0.04)	0.01	-0.03 (0.04)	0.30
Age	0.17 (0.0)	<0.001*	0.17 (0.0)	<0.001*	0.01 (0.0)	0.68
Marital status (single)	-0.13 (0.05)	0.01	-0.12 (0.04)	0.01	0.05 (0.04)	0.08
Education^1						
Low	-0.04 (0.06)	0.50	-0.13 (0.06)	0.02	0.03 (0.05)	0.36
Intermediate	0.03 (0.06)	0.54	-0.14 (0.05)	0.01	0.03 (0.04)	0.38
BMI	-0.08 (0.01)	0.09	0.01 (0.01)	0.79	0.03 (0.0)	0.35
Chronic illness (other than obesity)^2	-0.25 (0.05)	<0.001*	-0.10 (0.05)	0.03	-0.03 (0.04)	0.29
Person-centred care	0.21 (0.04)	<0.001*	0.28 (0.03)	<0.001*	0.81 (0.03)	<0.001*
Adjusted R^2	0.16		0.14		0.66	

*Significant at Bonferroni adjusted α = 0.006.

Abbreviations: BMI, body mass index. [1]Reference group = high education. [2]Diabetes, cardiovascular diseases, heart failure, lung diseases, cancer, arthrosis, osteoporosis, chronic joint inflammation, depression, anxiety, or any unlisted chronic illness.

CHAPTER 6

General discussion

GENERAL DISCUSSION

Susan is 37 years old and has been living with obesity since her teenage years, a complex condition that she struggles to manage despite all her efforts. She exercises regularly and follows various diets, but she is unable to achieve lasting weight loss. Her body does not always seem to cooperate: due to a slow metabolism and the effects of previous diets, her weight continues to fluctuate. Moreover, Susan lives in an obesogenic environment, where she is constantly exposed to processed foods, tempting snacks, and unhealthy, quick options. For example, there are always cookies available at her workplace and on her way home, she passes numerous fast-food outlets.

The COVID-19 pandemic made everything even harder for Susan. Her usual fitness facilities were closed for a long time, preventing her from maintaining her routine. Although she continued to exercise at home, she missed the motivation and structure her regular fitness location provided. This led to weight gain, which further undermined her sense of control and self-confidence.

In healthcare, Susan often feels not taken seriously. Her doctors tend to focus solely on the number on the scale, advising her to lose weight repeatedly without addressing the underlying causes or accompanying symptoms. This approach has made Susan hesitant to seek help for her health complaints, fearing she will be dismissed again.

Outside of healthcare, Susan also frequently experiences stigma. On public transport, she often gets disapproving looks, and when eating in the company of others—particularly when she eats an occasional snack—she feels judged. Well-meaning but hurtful comments from family and friends, such as “Should you really eat that?” make her constantly aware of her weight and others' opinions. This ongoing stigmatization, both in her social environment and in healthcare, leaves Susan feeling increasingly unsupported and more reluctant to seek help, despite all her efforts to maintain her health.

Note: This case is fictional and is constructed based on documented experiences of individuals living with obesity, as reported in this dissertation and supported by findings from numerous other studies.

The case study of Susan is not unique; it exemplifies the widespread challenges faced by many individuals living with obesity. Over recent decades, the prevalence of obesity has risen significantly and continues to increase at an alarming rate, with more severe forms of obesity becoming progressively more common.[1-3] In the Netherlands, the percentage of adults living with obesity has more than doubled since 1990 to 16% in

2024 and is predicted to rise to 38% in 2035.[2,3] If left untreated, obesity can lead to numerous other health conditions, diminish quality of life, and decrease life expectancy.[4] The increased vulnerability of those living with overweight and obesity was once again highlighted during the recent COVID-19 pandemic. Research conducted in the Netherlands revealed that between 70 and 98% of the excess mortality during the first two years of the pandemic occurred among people with overweight.[5]

Although treatment can enhance quality of life, improve management, and, sometimes even remedy the consequences of obesity, obesity remains greatly underdiagnosed and undertreated.[6] All over the world people living with obesity are facing significant barriers to care.[7] Long-term weight management in obesity is exceptionally challenging, largely due to physiological changes in the body that resist weight loss, as well as environmental obstacles posed by today's obesogenic society.[8] Yet, care and support for patients living with obesity often is limited to generic weight loss advice that fails to address patients' true needs and circumstances.[9] Adopting a person-centred approach to care may help to better accommodate patients living with obesity. The main aim of the research conducted in this dissertation was to explore the potential of PCC for enhancing care and support for patients living with obesity. The following research aims were addressed: 1) to explore the views of patients living with obesity on PCC; 2) to validate an instrument for the assessment of PCC among patients living with obesity; 3) to investigate the role of weight stigma in PCC for patients living with obesity; and 4) to identify the relationship of PCC to well-being and satisfaction with care among patients living with obesity.

Reflection on the main findings

Aim 1: To explore the views of patients living with obesity on PCC

Using Q-methodology, the research presented in Chapter 2 identified five distinct viewpoints held by patients living with obesity regarding important aspects of care and support, based on the eight dimensions of PCC. This relatively high number of perspectives, compared to similar Q-methodology studies highlights the diversity in what these patients consider most important in their care and support.[10-14] This diversity is unsurprising given the complex nature of obesity and the multitude of factors that influence individual circumstances and experiences of patients living with obesity.[8,15]

The research in Chapter 2 shows that while patients living with obesity hold varied views on what they prioritize in their care and support, they share a common desire to be treated with dignity and respect. *Respecting patients' values, preferences and* *expressed needs* surfaced as a crucial dimension of PCC. Patients emphasized the importance of greater recognition of obesity as a complex, chronic disease and expressed a strong desire to be taken more seriously by healthcare providers. While many leading health institutes recognize obesity as a disease, the public has been slow to embrace this definition and many still view obesity as a reversible consequence of personal choices.[16] This widespread misconception perpetuates harmful stereotypes and biases, leading to unfair and negative treatment of individuals living with obesity. Obesity remains a highly stigmatized condition, with numerous studies demonstrating how negative encounters in healthcare leave patients feeling neglected, misunderstood, and disrespected.[17,18] Weight stigma is alarmingly prevalent in healthcare settings, even among professionals specializing in obesity, where it creates communication barriers, biases in clinical decision making, and ultimately compromises the quality of care delivered.[19-21]

The findings described in this chapter further revealed notable differences in the aspects of care that patients prioritized. For example, while some considered *emotional support* one of the most crucial dimensions of care and support, others placed little emphasis on it, instead prioritizing aspects related to the provision of *information and education*. These patients expressed a strong desire for thorough, clear, and comprehensive explanations about all aspects of their care, as well as sufficient time during appointments to ask questions. Despite rapid scientific developments enhancing our understanding of obesity and improving care opportunities, a substantial gap remains between the information and education provided to patients and their actual informational needs.[22] Many patients report inadequate knowledge about obesity and its treatment options and feel that their healthcare providers are similarly underinformed, limiting their ability to make informed decisions about their care.[23] Communication barriers further complicate this issue, with patients often finding it difficult to initiate conversations about weight or receiving unsatisfactory – or no – advice on weight management.[24] An international study involving 68 low-, middle-, and high-income countries revealed that the lack of trained healthcare professionals and the shortage of adequate obesity care training for professionals in the field were among the most significant barriers to effective treatment.[7]

The research in Chapter 2 further revealed that many patients viewed *the involvement of family and friends* in their care and support as less important, or even unnecessary. This finding is particularly significant given that obesity is not simply an individual issue but is shaped by a complex interplay of individual, social, and environmental factors.[25-

[27] Research demonstrates that social environments can play an important role in achieving positive outcomes for patients seeking obesity treatment.[23,27,28] For instance, a recent study found that support from family and friends is vital for patients living with obesity in making treatment choices, managing obesity-related complications, and increasing quality of life, while a lack of support can lead to withdrawal, demoralization, and anxiety about treatment.[23] Similarly, a review on self-perceived barriers and facilitators to weight loss and maintenance highlighted that support from close relationships – such as friends, family members, and colleagues – is a key facilitator for weight loss success.[27] This review also highlighted the negative influence that close relationships can have, for instance through pressure and negative comments regarding food choices or through social expectations and cultural norms. Patients' reluctance to involve family members and friends may stem from previous experiences with weight stigma, as research has shown that family members and friends are often significant sources of such stigma.[29,30] This underscores the need for healthcare providers to address weight stigma not only in the clinical setting but also as a part of broader patient education. Healthcare professionals can help patients to gain more understanding from their close relationships and build supportive networks.

The viewpoints that are described in Chapter 2 of the dissertation offer valuable insights into what patients living with obesity consider important in their care and support and deepen our understanding of what PCC entails for this population. The diverse viewpoints underscore the importance of tailoring care, taking into account both the complexity of obesity and the pervasive stigma surrounding it. Furthermore, they emphasize the need to support both patients and healthcare professionals in navigating the landscape of knowledge about obesity and obesity treatment.

Aim 2: To validate an instrument for the assessment of PCC among patients living with obesity

There is a growing recognition of the potential of PCC for improved care experiences and outcomes of patients living with obesity, but there is a need for more research as well as more guidance and resources to measure PCC experiences within this population.[31,32] The research in Chapter 3 of the dissertation describes the development and psychometric validation of the Person-Centred Obesity Care (PCOC) instrument, a tool specifically designed to collect, monitor, and evaluate the care experiences of patients living with obesity, grounded in the eight dimensions of PCC. While previous instruments based on the eight dimensions of PCC have been developed for other patient populations,[33-35] the PCOC instrument has refined and adapted these instruments specifically to reflect the unique needs, challenges, and experiences of patients living with obesity. The PCOC instrument builds on the research presented in Chapter 2 of the dissertation, which emphasized the diversity of patient perspectives on key aspects of care and support and identified important common themes, such as the importance of addressing stigma-related factors. In line with this research, the PCOC instrument addresses critical themes that are particularly relevant to patients living with obesity, such as ensuring that patients feel respected and taken seriously (e.g., Item 2: “I felt taken seriously”) and that patients do not feel judged by their care providers (e.g., Item 3: “My care providers did not judge me”).

The research in Chapter 3 introduces both a short 24-item and long 40-item version of the PCOC instrument, developed to ensure its broad applicability across various settings. The 40-item version captures a broader range of aspects of care and support, allowing for a more detailed and comprehensive understanding of patients’ PCC experiences, whereas the concise 24-item short version facilitates a more efficient assessment of PCC while minimizing the burden on users. Firstly, the ability to measure these experiences is crucial for advancing research into PCC for individuals living with obesity. Based on prior studies, it is expected that when care is more person-centred, and thus better aligned with the various dimensions of PCC, the quality of care for patients will improve.[36,37] The PCOC instrument can be used to investigate the extent to which PCC is actually linked to improved patient outcomes, as is demonstrated in Chapter 5 of this dissertation, where the relationship between PCC and patient satisfaction and well-being is explored through cross-sectional research. Secondly, by providing both an overall PCC score as well as separate scores for each of the dimensions, the PCOC instrument can help researchers and healthcare providers to evaluate the overall level of PCC as well as identify specific areas of care and support that may need improvement. The instrument can be used both as a one-time assessment or repeatedly, for example, to evaluate the effectiveness of healthcare quality improvement initiatives over time.

The findings presented in Chapter 3 of the dissertation revealed that the PCOC instrument is a reliable and valid tool for assessing the eight dimensions of PCC among patients living with obesity. The PCOC may boost further research on the role of PCC in improving care for these patients and assist care providers in evaluating patients’ experiences with PCC.

Aim 3: To investigate the role of weight stigma in PCC for patients living with obesity

The research presented in Chapter 4 of the dissertation delved into the pervasive issue of weight stigma within healthcare settings by examining the experiences of patients living with varying classes of obesity. Chapter 4 demonstrates that weight-stigmatizing experiences in healthcare are common among patients living with all degrees of obesity, though patients living with more severe obesity face greater weight stigma. Importantly, across all obesity classes, experiences of weight stigma in healthcare settings were associated with lower ratings of PCC. This highlights the pervasive impact of this stigma, as even patients with less severe weight challenges perceive poorer quality of care when faced with weight stigma.

Consistent with prior studies,[38-43] in Chapter 4 an increase in the frequency of weight-stigmatizing experiences with increasing obesity severity is described. Patients with higher BMI's reported more frequent experiences with cruel remarks and ridicule, stereotyping, and being confronted with inadequate facilities such as medical equipment or chairs that are too small. These findings, together with numerous other studies that have documented similar experiences, highlight that weight stigma is not only more prevalent but also manifests in more diverse ways as obesity severity increases. The consequences of weight stigma in healthcare settings are both profound and far-reaching.[18,44,45] Stigma not only affects emotional well-being and increases stress but also undermines trust in healthcare providers, resulting in poorer patient engagement, lower adherence to professional recommendations, postponing and delaying of care, and ultimately poorer health outcomes.[21,45] Reducing stigma is therefore not just a matter of improving individual care experiences; it is essential for fostering equitable and effective healthcare.

The in Chapter 4 described research further revealed that the most reported experiences of weight stigma were related to how the subject of weight is approached by healthcare professionals, such as receiving unsolicited weight loss advice or recommendations that do not align with patients' needs. Receiving overly simplistic or unhelpful health advice is a recurring theme in research involving patients living with obesity.[22] While such advice is often well-intended, it tends to overlook the complex, multifaceted nature of obesity, suggesting that the solution is as straightforward as "just eating less and moving more". In reality, patients have often already made numerous attempts to lose weight on their own, often without success. A study revealed that among patients with overweight or obesity who received weight loss advice from their healthcare providers, 7 out of 10 engaged in efforts to lose weight, but only 1 out of 10 sought professional help to do so.[46] This highlights a concerning trend: while discussions about weight may motivate patients to attempt weight loss, they often feel unable to rely on their healthcare providers for guidance.

Another commonly reported experience, as highlighted in Chapter 4 and in prior research,[41,47,48] is the perception that unrelated physical problems are wrongly attributed to a patient's weight. This experience can stem from weight stigma, where biases and misconceptions about obesity result in patients getting less comprehensive care. For instance, researchers have demonstrated that patients with higher weights may receive less time during medical consultations, suggesting differential treatment based on preconceived notions about their health.[49] Another possible contributor to this perception might be a limited understanding among patients of the wide range of physical complaints and medical conditions associated with obesity. For healthcare professionals, addressing weight in the context of seemingly unrelated health complaints may seem logical. However, our findings emphasize that patients often perceive these discussions as unwarranted or stigmatizing, particularly when the link between weight and their presenting health complaint is unclear. Prior research has shown that patients often feel dismissed in these situations due to a lack of thorough medical attention or examination, leaving them anxious about potential illnesses or other health issues that may go undetected.[22] Importantly, these findings do not imply that weight should no longer be talked about, however, they emphasize that how these conversations are approached matters. For example, a widely accepted solution to approach the subject of weight is to ask permission from patients to talk about it before initiating the conversation.[50] This is also recommended as a first step in the evaluation and treatment of overweight and obesity in the recently developed Dutch guideline.[15]

Taken together, these findings emphasize two critical priorities. First, there is an urgent need to eliminate the influence of weight-stigmatizing beliefs and attitudes in clinical assessment and treatment, ensuring that all patients receive equitable and comprehensive care. Second, they highlight the importance of approaching weight-related discussions with care and sensitivity, using supportive and nonjudgmental communication to help patients understand potential links between their weight and health concerns, avoiding language that suggests blame or oversimplification of complex health issues.

The findings of Chapter 4 emphasize the significant role of weight stigma in the healthcare experiences of patients living with obesity. Addressing weight stigma is critical for improving the quality of care. This entails raising awareness among *healthcare professionals about the complex nature of obesity, promoting supportive communication during weight-related discussions, and ensuring that healthcare environments are accessible and inclusive.*

Aim 4: To identify the relationship of PCC to well-being and satisfaction with care among patients living with obesity

By considering the unique experiences and circumstances of patients, PCC allows for a more holistic approach to addressing their care needs. Research shows that when care aligns more closely with the principles of PCC, organizations report improved patient outcomes, including greater patient well-being and satisfaction with the care received.[36,37] However, limited data exists on the impact of PCC for patients living with obesity. The cross-sectional study among patients living with obesity described in Chapter 5 demonstrates that PCC is associated positively with both physical and social well-being, as well as satisfaction with care.

The finding that PCC has the potential to promote both the social and physical well-being of these patients is important, as obesity is associated not only with a broad range of physical health consequences but also with far-reaching social and psychological effects.[51,52] Rather than focusing solely on weight, PCC emphasizes patients' broader well-being needs and individual treatment goals. This holistic approach enables more tailored support and treatment planning, ultimately leading to more effective care and better health outcomes. For instance, by recognizing the broader impact of obesity on patients' private lives and mental health, critical social support needs may be revealed that must be addressed first or alongside any medical intervention. In a qualitative study among individuals living with obesity, participants expressed the need for mental health support before they could focus on any weight loss efforts.[53] Furthermore, treating patients with dignity and respect, taking their experiences and concerns seriously, and staying clear of preconceived ideas or judgment can foster a sense of understanding and support, that patients have been expressing a clear need for. By helping patients gain more understanding and support within their social environment, weight-stigma may be reduced.

The research presented in Chapter 5 further shed light on the PCC experiences within the study sample. The findings showed that patients in the study rated the dimension of *coordination of care* lower than all other PCC dimensions, highlighting a need for improved integration and coordination among care professionals involved in patients' care. The current approach to obesity is highly fragmented. Obesity multidisciplinary care teams are rare and comprehensive treatment plans that encompass both medical health and the broader well-being of individuals living with obesity are often absent. [53,54] Weight stigma perpetuates the fragmentation of care, as many healthcare providers fail to recognize obesity as a complex chronic disease, undermining the development of holistic and coordinated treatment strategies for these patients. Current healthcare systems often prioritize treating obesity-related complications, such as diabetes or cancer, rather than addressing obesity as a primary condition.[55] Patients often receive serious medical attention only when comorbidities arise, despite the chronic nature of obesity and its significant, long-term health consequences. Early intervention is crucial to mitigate these outcomes, yet the focus often remains on symptoms rather than addressing the underlying causes of obesity.

The research in Chapter 5 highlights the potential of PCC to improve care for patients living with obesity. By embracing a comprehensive approach to health and well-being – one that goes beyond weight alone and moves past merely treating acute symptoms – more personalized treatment plans can be developed. Achieving this requires a multidisciplinary effort, as well as improved integration and coordination among involved care professionals.

Beyond blame: Toward PCC for patients living with obesity

This dissertation demonstrates that by prioritizing a person-centred approach to care and support, we can more effectively address the varied and often overlooked needs of patients living with obesity. By moving beyond blame and shame, PCC principles – such as treating individuals with dignity, compassion, and respect, and delivering comprehensive, personalized, and coordinated care – pave the way for higher-quality care and, ultimately, better patient outcomes. The findings of this dissertation underscore the importance of better recognition and understanding of obesity as a complex, chronic condition and highlight the urgent need for a more inclusive and respectful approach to care. Achieving this requires confronting the pervasive weight stigma that affects individuals living with obesity, both in society at large and within health care settings.

Weight stigma is identified in this dissertation as a significant barrier to PCC, alike with the views of international experts who stress that reducing weight stigma is a necessary and critical step toward improving care for patients living with obesity.[17,56] One key issue seems to be the societal underestimation of the complexity of obesity.[54] Obesity is often confused with lifestyle – by both patients and their healthcare providers – oversimplifying its causes and ignoring the multifaceted interplay of genetic, biological, social, and environmental factors (see Table 1 for an overview).[15] This misunderstanding perpetuates weight stigma and overlooks the fact that obesity is a chronic, relapsing condition influenced by much more than individual behaviors.[57] While professional guidelines often exist, there remain major gaps between the scientific knowledge of obesity and the implementation of that knowledge in clinical practice.[7,58] One of the key barriers identified in international research is the lack of adequate training among healthcare professionals.[7] This issue is likely linked to the broader issue of obesity not being universally recognized as a chronic disease, limiting its prioritization in medical education and practice. To better accommodate patients living with obesity, professionals must be better equipped with the necessary knowledge and skills required to provide adequate support and treatment for these patients.

Weight stigma is not only pervasive within healthcare but also deeply embedded in society at large.[40] The misconception that obesity is simply the result of reversible personal choices is widespread, affecting the daily lives of people living with obesity, shaping media narratives, and influencing policy decisions and scientific research.[17,56] The consequences of weight stigma are far-reaching, including worsening of physical and mental health as well as causing socioeconomic harm.[18,59] Moreover, increasing evidence shows that those living with obesity may internalize weight-stigmatizing attitudes, causing them to feel shame and guilt and belief that their condition is entirely their fault, and that they must solve this problem on their own.[60] Internalized stigma can discourage individuals from seeking professional help and undermine efforts to manage obesity effectively, worsening health disparities.[21] For example, patients undergoing bariatric surgery are faced with stereotypes and judgment, causing them to hide their surgery status from others.[61] Similarly, recent media attention surrounding medications like Ozempic has fueled narratives that frame the use of obesity medications as “quick fixes”, implying a lack of personal effort en perpetuating stigmatizing attitudes. These messages may discourage individuals from accessing effective treatments out of fear of judgment or misunderstanding. Addressing weight stigma thus requires a societal shift towards recognition of obesity as a complex chronic disease, rather than merely the result of individual lifestyle choices. Such a change must be reflected in society at large, including public discourse and policy.

Table 1. Causal, contributing, and/or sustaining factors of overweight/obesity

Lifestyle	Socioeconomic	Psychological	Medication	Hormonal
COMMON	**COMMON**	**COMMON**	**COMMON**	**COMMON**
• Unhealthy eating pattern • Too little physical activity • Chronic sleep deprivation • Obstructive sleep apnea syndrome • Night shifts • Timing of meals • Heavy alcohol consumption • Quitting smoking • Cultural or socio-economic factors	• Financial concerns • Loneliness • Inability to participate independently in society • Death or serious illness of a partner/ family member, job loss, minimum income, poverty • Difficulty with reading, writing, arithmetic, comprehension (illiteracy, reduced health literacy) • Cultural habits	• Depression • Chronic stress • Psychological trauma • Childhood abuse (physical or emotional) in the past • Sexual abuse in the past • Eating disorders such as Binge Eating Disorder and Bulimia Nervosa	• Antihypertensives: β-blockers, α-blockers • Pain medication: Pregabalin, amitriptyline • Diabetes medication: Insulin, glimepiride • Antidepressants: Mirtazapine, citalopram, paroxetine • Antipsychotics: Olanzapine, risperidone, lithium • Anti-epileptics: Carbamazepine, valproic acid, gabapentin • Corticosteroids (long-term use): Oral, injections, sometimes local	• Hypothyroidism • Polycystic Ovary Syndrome (PCOS) • Male hypogonadism • Retaining extra weight after pregnancy • Menopause
				RARE
				• Hypopituitarism • (Cyclic) Cushing's syndrome • Growth hormone deficiency • Insulinoma

Source: Partnerschap Overgewicht Nederland (PON). van Rossum EFC, Freijer K, Brongers W, et al. Richtlijn Overgewicht en Obesitas bij volwassenen. Diagnostiek van overgewicht en obesitas bij volwassenen. Tabel 1.2 Diagnostiek van onderliggende oorzaken en gewicht verhogende of in stand houdende factoren bij obesitas. 2023

Table 1. Continued.

Hypothalamic	**Monogenetic/Syndromal**	
RARE	**RARE**	
• Hypothalamic damage due to radiation, surgery, or head trauma • Hypothalamic tumor • Craniopharyngioma • Malformation	*Monogenetic obesity* • Early-onset obesity • Extreme appetite • Noticeable weight differences among family members	*Syndromal obesity* • Early-onset obesity • Extreme appetite • Noticeable weight differences among family members • Dysmorphic features or congenital abnormalities • Autism • Developmental delay
	Examples: Mutations in genes of MC4R, POMC, leptin, leptin receptor, PCSK1	*Examples:* Prader-Willi, Bardet-Biedl, 16p11.2 deletion, pseudohypoparathyroidism type 1 (PHP1a), Alström syndrome

This table is part of the Dutch Guideline for Overweight and Obesity in Adults. For a supporting screening tool to help diagnose underlying causes of overweight and obesity, visit www.checkoorzakenovergewicht.nl (or www.checkcausesobesity.com for English).

Source: Partnerschap Overgewicht Nederland (PON). van Rossum EFC, Freijer K, Brongers W, et al. Richtlijn Overgewicht en Obesitas bij volwassenen. Diagnostiek van overgewicht en obesitas bij volwassenen. Tabel 1.2 Diagnostiek van onderliggende oorzaken en gewicht verhogende of in stand houdende factoren bij obesitas. 2023

Conceptual framework

This dissertation adopts the Picker Institute's eight-dimension framework of PCC to explore PCC in the context of patients living with obesity, defining its core aspects as: (1) respect for patients' values, preferences and expressed needs, (2) physical comfort, (3) coordination and integration of care, (4) emotional support, (5) access to care, (6) continuity and transition of care, (7) information and education, and (8) the involvement of family and friends.[62,63] Although widely used in research and practice, the framework is primarily an empirically derived model rather than a comprehensive theoretical one.

Developed through large-scale empirical research, it categorizes PCC into distinct dimensions but does not engage deeply with broader theoretical perspectives that explain its underlying mechanisms or how different elements interact. As a result, the framework remains conceptual rather than theoretical, offering a structural approach to conceptualizing and measuring PCC without addressing its theoretical underpinnings or the wider influences that shape it. For instance, this dissertation highlights weight stigma as a key issue for patients living with obesity, impacting multiple domains of their care experiences. Beyond patient-provider interactions, weight stigma also operates at broader structural and systemic levels, influencing policy development, clinical guidelines, and the allocation of resources.[17,56] Additionally, sociocultural narratives – framing obesity as a personal failure rather than a complex condition influenced by genetic, biological, social, and environmental factors – further reinforce weight stigma and its impact in healthcare.[17,64] By integrating such broader perspectives, future research can contribute to a more robust theoretical understanding of PCC in the context of patients living with obesity.

Methodological considerations

Each chapter in the dissertation highlighted methodological considerations with regard to the research conducted. Here, some general remarks are addressed.

A key strength of this dissertation is the use of mixed methods to explore the potential of PCC in enhancing care and support for patients living with obesity. In particular, the use of Q-methodology in Chapter 2 is a valuable addition to the quantitative methods used in the other chapters. This approach provided an opportunity for an in-depth exploration of the diverse perspectives of patients living with obesity, focusing on what they consider most important in care and support, and why. The insights gained from Chapter 2 played a pivotal role in the development of the PCOC questionnaire, described in Chapter 3. The findings also directly informed the research described in Chapter 4, delving deeper into the pervasive issue of weight stigma in healthcare settings.

Another strength of the dissertation is its interdisciplinary approach, bringing together researchers and health care professionals with expertise from both the social and medical sciences. The social science perspective provided critical insights into the practical implementation of PCC, focusing on both physical health and the social factors that shape overall health and well-being. The medical science expertise contributed essential clinical knowledge on obesity, including a deeper understanding of its complex causes, specific care needs, and the fast-evolving scientific developments that influence treatment options. Together, these perspectives contributed to a more comprehensive understanding of what PCC entails for patients living with obesity and the specific barriers these patients face in the context of healthcare.

A limitation of this dissertation is that obesity was primarily defined by an individual's BMI. While BMI is a widely used indicator for measuring obesity at the population level, an accurate clinical diagnosis often requires additional information, such as measuring waist circumference.[65,66] Relying solely on BMI can result in both overdiagnosis and underdiagnosis of individuals. For instance, a high BMI may stem from increased muscle mass rather than fat mass, or someone with excessive visceral fat around their organs may not present high enough BMI. Therefore, the recent Dutch guideline for Overweight and Obesity recommends assessing an individual's weight-related health risk profile based on BMI in combination with waist circumference and comorbidities to guide diagnosis and treatment options.[15]

Moreover, with the exception of the research described in Chapter 2, the average BMI in this dissertation was relatively low, suggesting that the majority of the sample consisted of patients living with class I and II obesity, and fewer with severe (class III) obesity. This is an important consideration, as the impact of obesity tends to escalate with severity. Higher BMI levels are associated with greater physical health challenges as well as a greater psychosocial impact, including experiences of weight stigma.[40,67,68] Therefore, the findings of this dissertation may underestimate both the full extent of challenges faced by individuals living with more severe obesity and the importance of PCC to better accommodate their needs. Furthermore, the predominance of class I and II obesity in the sample may have influenced the final selection of items for the PCOC instrument, potentially excluding specific aspects of care that may only be relevant to individuals living with class III obesity, such as the availability of comfortable (e.g., sturdy and armless) chairs.

Another limitation is the lack of longitudinal data investigating the relationship between PCC and improved well-being and satisfaction with care among patients living with obesity. While the research within this dissertation has provided valuable insights into what PCC entails for this population, highlighting stigma in healthcare as a barrier to overcome, and resulted in a valid and reliable tool for further exploring PCC within this group, the dissertation only offers cross-sectional insights into the relationship between PCC and patient well-being and satisfaction with care. Although the found associations align with other studies conducted in different populations where longitudinal relationships have been established,[36,37] these relationships remain to be investigated for this specific population.

Finally, the research presented in this dissertation must be interpreted within the context of the Netherlands and the Dutch healthcare system. The Netherlands has a relatively strong healthcare system, which means that patients are less likely to encounter barriers in certain aspects of care compared to other countries, such as accessibility to essential healthcare services.[69] While caution is needed when applying the findings of this dissertation to other contexts, the issues related to the organization of care for patients living with obesity are widespread globally,[7] and key findings of this dissertation are also relevant in other settings. Furthermore, obesity stigma is well-documented at the international level and has been recognized as a universal challenge.[70]

Implications for practice, policy, and research

The findings of this dissertation highlight the value of a person-centred approach to enhance care and support for patients living with obesity and deepen our understanding of what such care should entail. In particular, they underscore the pervasive impact of weight stigma as a barrier in healthcare and the importance of addressing it both in care settings and in society more broadly. Below, several key implications for practice, policy, and research are outlined.

Towards comprehensive, individualized care and support

First, our research emphasizes that there is no one-size-fits-all approach to providing care and support for patients living with obesity. A nuanced and individualized approach is essential, reflecting both the complex factors contributing to obesity and the unique preferences, needs, and circumstances of each individual. Overall, a more empathetic and inclusive model of care is needed, as many patients currently feel unheard, judged, dismissed, or stigmatized. For care providers aiming to adopt such an approach, the eight-dimension PCC framework can serve as a supportive tool, promoting a comprehensive perspective on health and well-being.

For instance, our research indicates that delivering PCC requires greater attention to aspects of care that are often overlooked, such as emotional support. A recent review highlights the importance of integrating psychological support into obesity management, either through direct interventions or by including psychologists in multidisciplinary teams.[71] While some patients may benefit most from direct psychological care, psychologists may also enhance care indirectly by contributing to comprehensive assessments and personalized treatment plans. Additionally, normalizing emotional support within obesity care may help reduce stigma and foster a more compassionate approach. Given the limited guidance on psychological support for patients living with obesity, further research into best practices is needed.

In addition to psychological support, the role of social support should not be overlooked.[23] However, our research revealed that some patients are hesitant to involve family or friends in their care, as they do not perceive it as important or beneficial, despite the well-documented influence of social ties on obesity and the crucial role of social support in managing chronic conditions.[25,26,72-74] Future research should investigate the factors underlying these perspectives and explore ways to help individuals build more supportive relationships. This could include family-based interventions or educational programs aimed at fostering greater understanding and encouragement within patients' social environments.

Additionally, social support from peers may be a particular valuable resource, providing individuals with a sense of community and mutual understanding by connecting with others who share similar experiences.[75,76] It is recommended that future studies explore various strategies for incorporating peer support into the care for patients living with obesity, such as peer-led support groups, involvement of peers in patient education programs, or the integration of trained peer supporters into multidisciplinary care teams. Overall, ensuring that healthcare and policy decisions align more closely with the true needs of patients requires greater involvement of individuals with the lived experience of obesity. Patient advocacy groups, such as the Nederlandse Vereniging voor Overgewicht & Obesitas (NVOO) and the European Coalition for People living with Obesity (ECPO), provide critical firsthand insights into the challenges and priorities of those affected by obesity, helping to shape more inclusive and effective care policies.

Moreover, care for patients living with obesity remains highly fragmented.[54,55] This was also evident in our research, as participants rated coordination of care the lowest among all PCC dimensions. Comprehensive care often requires a multidisciplinary approach, involving professionals across medical and social domains.[77] To this end, Partnerschap Overgewicht Nederland (PON) – a Dutch umbrella organization comprising 23 professional health care-related organizations and patient organizations dedicated to optimizing obesity care and advising government policy – has developed a network-based approach.[1] Central to this model is a coordinating professional who

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[1] https://www.aanpakovergewicht.nl/

conducts a comprehensive assessment of the factors influencing and sustaining the patient’s condition and organizes the necessary care and support. This role exists both in primary care (e.g., practice nurses) and hospital settings (‘leefstijlzorgloketten’), and should be fulfilled by someone with knowledge of both domains, serving as a central point of contact. In close collaboration with the patient, the coordinator develops a tailored care plan involving relevant professionals such as dieticians, physiotherapists, psychologists, and social workers. Integrated, multidisciplinary care models such as the network-based approach offer a promising pathway to more effectively addressing the complex and varied needs of this population.

Understanding and treating obesity as a complex chronic disease

Our research further highlights the need for better recognition and understanding of obesity as a complex, chronic condition. For instance, our research showed that simply advising patients to 'eat less and exercise more' not only fails to meet their information and education needs or do justice to the complexity of the disease and the multitude of contributing and sustaining factors, but it also fosters stigma. Comprehensive care requires healthcare professionals to understand the multifaceted nature of obesity, including the wide range of factors influencing weight and weight loss efforts.[15]

Improved education and training for healthcare professionals are essential, including the structural integration of the topic of overweight and obesity into medical and health curricula.[16,78] Importantly, it is essential that within this education, specific attention is given to the pervasiveness and harmful consequences of weight stigma, as well as the benefits of providing compassionate, nonjudgmental care.[78] For care professionals specializing in obesity it may be appropriate to demonstrate competence in stigma-free practice.[17]

Moreover, healthcare facilities should be adequately equipped to treat patients living with obesity. To address this, an expert panel recommends including obesity-specific care requirements in the accreditation criteria for healthcare providers.[17]

Additionally, continuing education is needed to equip professionals in the field with current knowledge of diagnostics, causes, and effective treatment. Fortunately, there are increasingly more ways to effectively treat obesity, such as medications that target the disrupted satiety feelings of patients and also improve many obesity-related comorbidities.[79] However, these treatment options should be part of a comprehensive approach, guided by well-trained healthcare professionals.

To enhance professionals' knowledge and support more effective clinical decision-making, the Dutch screening tool www.checkoorzakenovergewicht.nl[2] was developed based on the Dutch Guideline for Overweight and Obesity.[15] This tool helps identify underlying causes and contributing factors in overweight and obesity, enabling a more comprehensive assessment of each patient's circumstances. The idea is for patients to complete the questionnaire, based on (inter)national algorithms, at home and bring it to their healthcare provider for further discussion. By providing greater insight into the factors affecting weight, this tool not only helps determine the most appropriate treatment for each patient but also fosters greater awareness of obesity's complexity – a key step toward reducing weight stigma in healthcare. Moreover, tools like these can help improve our understanding of patients' needs by systematically assessing underlying causes, contributing factors and their self-reported care demands.

Furthermore, our research highlighted the importance of approaching weight-related conversations with care and sensitivity. A key first step, supported by both patient perspectives and clinical guidelines, is to ask permission before initiating the topic.[15,50] It is also important for care providers to recognize that many patients have already made repeated attempts to lose weight and require support in more effective treatment options.[22,50] Based on our findings and previous research, [41,47,48] linking weight to patients' health concerns requires particular sensitivity in communication, warranting further investigation into best practices. Importantly, conversations about weight do not need to be limited to the context of related health issues, as many patients are open to, or even wish to, discuss weight, provided the approach is respectful and supportive.[22]

Preventing overweight and obesity

Finally, this topic requires a broader perspective. Overweight and obesity are major societal issues. While the debate continues over who holds responsibility, the number of people with overweight is steadily rising. If current trends persist, the percentage of adults with overweight in the Netherlands is expected to reach 64% by 2050.[80] Additionally, the number of people living with severe obesity will continue to grow, leading to significant consequences for both the healthcare system—already burdened with high workloads and shortages—and the health and well-being of the population. Once a person develops obesity, it is often difficult to lose weight due to permanent bodily changes that hinder weight loss, giving obesity a chronic and often progressive nature that necessitates ongoing management.[81,82] The current dissertation focuses on

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[2] The questionnaire is developed by the Check Oorzaken Overgewicht (COO) team.

enhancing care and support for individuals who have already developed obesity, offering insights to better accommodate these patients and ultimately improve their care outcomes. However, this represents only one part of the solution. In addition to ensuring adequate care and support for those living with obesity, it is crucial to prioritize the prevention of obesity through collective action. The government has a key role to play in this, for example, by implementing measures to address the obesogenic environment, such as introducing structural nutritional education in schools or adopting price policies like a sugar tax or a VAT reduction on fruits and vegetables.[83-85]

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APPENDICES

Summary
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SUMMARY

Chapter 1: Introduction

Obesity is a chronic, relapsing disease that impacts more than one billion individuals worldwide. In the Netherlands, overweight currently affects over half of all adults, with 16% living with obesity. The condition results from a complex interplay of genetic, behavioural, and environmental factors and has far-reaching consequences for both physical and mental health. Despite its growing prevalence, current healthcare systems often fail to meet the needs of patients living with obesity, resulting in unsatisfactory care experiences and outcomes.

Adopting a person-centred care (PCC) approach may hold promise for improving care and support for patients living with obesity. The eight dimensions of PCC include respect for patients' preferences, physical comfort, the coordination of care, emotional support, access to care, the continuity of care, the provision of information and education, and the involvement of family and friends.

Although PCC has demonstrated benefits across various healthcare settings, research on its application for patients living with obesity remains limited. The main objective of this dissertation was to explore the potential of PCC to enhance care and support for this patient group.

Chapter 2: Views of patients living with obesity on PCC: a Q-methodology study

To better accommodate the needs of patients living with obesity, it is important to gain insight into their perspectives on care and support, and to identify which aspects they consider most important. This chapter presents the findings of a Q-methodological study that explored the views of patients living with obesity on the relative importance of the eight dimensions of PCC.

Patients holding viewpoint 1 ‘someone who listens in an unbiased manner’ want healthcare professionals to look beyond a patient's weight, desire to be taken more seriously, and seek greater recognition for the complexity of their condition. This viewpoint explained the most variance in the data and was supported by the largest number of respondents. Patients holding viewpoint 2 ‘everything should run smoothly’ primarily seek care that is well coordinated and accessible. Patients holding viewpoint 3 ‘interpersonal communication is key’ prefer care of an informative nature. Patients holding viewpoint 4 ‘I want my independence’ are driven by the desire to remain independent. Finally, patients holding viewpoint 5 ‘support for myself and my loved ones’ seek help to involve their loved ones in their care.

While the perspectives varied, being treated with dignity and respect was considered important across viewpoints. Notably, patients differed in their need for emotional support, while the involvement of family and friends was considered relatively unimportant across most viewpoints. The findings presented in this chapter emphasize the need for tailored care in obesity treatment and shed light on aspects of care and support most important to patients living with obesity.

Chapter 3: Validation of the 40-item and 24-item short version of the Person-Centred Obesity Care instrument for patients living with obesity

There is growing recognition of the potential benefits of PCC to enhance care and support for patients living with obesity, but guidance and resources remain limited. This chapter presents the development and validation of two versions of the Person-Centred Obesity Care (PCOC) instrument: a comprehensive 40-item version and a concise 24-item short version.

Both instruments are based on eight established dimensions of PCC: patient preferences, physical comfort, coordination of care, emotional support, access to care, continuity and transition, information and education, and involvement of family and friends. Data were collected from 590 Dutch adults living with obesity. The analysis supported the structure, reliability, and validity of both versions of the instrument. The short version was found to perform comparably to the full version, offering a practical option for use in time-limited settings.

These instruments provide valuable tools for evaluating the extent to which care is person-centred and can help clinicians and researchers to identify strengths and areas for improvement in the care and support for patients living with obesity.

Chapter 4: Perceived weight stigma in healthcare settings among adults living with obesity: a cross-sectional investigation of the relationship with patient characteristics and person-centred care

Individuals living with obesity often encounter weight stigma in healthcare settings, with worrying consequences for their care experiences and outcomes. This chapter presents the findings of a study examining perceived weight stigma in healthcare settings and its cross-sectional relationships with patient characteristics and PCC, using descriptive, correlational, and multivariate analyses.

Survey data from 590 Dutch adults living with varying classes of obesity revealed that 41% of participants living with class I obesity, 59% with class II, and 80% with class III reported at least one experience of weight stigma. Younger age, higher BMI, and the presence of chronic illnesses were all associated with greater perceived weight stigma. Across all obesity classes, the most frequently reported experiences were related to how the subject of weight loss was addressed. Common experiences included receiving unsolicited dieting advice, being told to lose weight without being offered appropriate treatment options, and the attribution of physical complaints that patients perceived as unrelated to their weight. As obesity severity increased, so did the likelihood of experiencing weight stigma. Among participants living with class III obesity, a broader range of experiences was also observed, including more frequent experiences of ridicule, being treated as less competent or lazy, and challenges within the physical healthcare environment, such as inadequately sized chairs or equipment. Importantly, greater perceived weight stigma was negatively associated with PCC; participants who reported more experiences of stigma were significantly less likely to perceive their care as person-centred.

The findings of this chapter highlight the significant impact of weight stigma on the healthcare experiences of patients living with obesity. Effectively reducing weight stigma will require comprehensive efforts across the healthcare system, including raising awareness among professionals about the importance of sensitive, supportive communication in weight-related discussions, as well as ensuring that care environments and interactions are respectful, inclusive, and appropriate for all patients.

Chapter 5: The relationship between person-centred care and well-being and satisfaction with care of patients living with obesity

PCC is associated with improved patient well-being and higher levels of satisfaction with care, but its impact on individuals living with obesity is not well-established. This chapter presents the results of a cross-sectional study exploring the relationship between PCC experiences, well-being and satisfaction with care within a representative national sample of 590 Dutch adults living with obesity.

Participants completed the 40-item PCOC instrument, designed to assess person-centred care among patients living with obesity, alongside validated measures of physical and social well-being and satisfaction with care. Of all PCC dimensions, participants rated ‘access to care’ significantly higher than the other dimensions, while ‘coordination of care’ received the lowest rating. Correlation and multiple regression analyses showed that PCC was positively associated with physical and social well-being, as well as with satisfaction with care. These associations remained significant after controlling for variables such as age, BMI, and the presence of additional chronic illnesses.

These findings suggest that PCC holds promise for improving outcomes among patients living with obesity. Enhancing care experiences in this population may require specific attention to dimensions such as coordination of care and emotional support, which were rated relatively low.

Chapter 6: General discussion

The findings of this dissertation highlight the potential of PCC to improve care and support for patients living with obesity by prioritizing a comprehensive approach that acknowledges the complexity of the condition and is respectful of and responsive to individual circumstances. Many patients report feeling unheard or misunderstood and often encounter weight stigma within healthcare settings, pointing to the need for a more empathetic and inclusive model of care.

Particular attention is warranted for aspects of care that are frequently overlooked, such as emotional and social support. While some patients may benefit most from direct psychological care, others may be supported through multidisciplinary approaches or peer support systems. Some patients are hesitant to involve family or friends in their care, highlighting the need to better understand and respond to patients' social contexts. Involving people with lived experience of obesity in care design and policy development can help ensure that services are better aligned with patients' needs. Efforts to address the fragmentation of care are equally important. More integrated and multidisciplinary models, such as the Dutch network-based approach, may offer a more effective response to the complex and varied needs of this population.

The results further underscore the importance of moving beyond oversimplified narratives that frame obesity solely as a matter of personal responsibility. Obesity is a complex, chronic condition influenced by a wide array of biological, psychological, and social factors. Simplistic advice such as “eat less, move more” fails to reflect this complexity and reinforces stigma. Conversations about weight should begin with consent and be conducted with empathy and respect. To provide adequate and non-stigmatizing care, healthcare professionals must be supported through improved education and training on the multifactorial nature of obesity as well as the prevalence and detrimental effects of weight stigma. Clinical environments must also be appropriately equipped to accommodate patients living with obesity. New screening tools, such as www.checkoorzakenovergewicht.nl, can help identify underlying causes and tailor treatment more effectively.

SAMENVATTING

Hoofdstuk 1: Algemene inleiding

Obesitas is een chronische, complexe aandoening die wereldwijd meer dan een miljard mensen treft. In Nederland heeft momenteel meer dan de helft van alle volwassenen overgewicht, waarvan 16% leeft met obesitas. De aandoening ontstaat door een complexe wisselwerking tussen genetische, gedragsmatige, en omgevingsfactoren, en heeft verstrekkende gevolgen voor zowel de fysieke als mentale gezondheid. Ondanks de snel toenemende prevalentie slagen zorgsystemen er vaak niet in om tegemoet te komen aan de behoeften van patiënten met obesitas, wat leidt tot onbevredigende zorgervaringen en -uitkomsten.

Een persoonsgerichte benadering van zorg biedt mogelijk perspectief op betere zorg en ondersteuning voor deze patiëntengroep. De acht dimensies van persoonsgerichte zorg omvatten respect voor voorkeuren van patiënten, lichamelijk comfort, coördinatie van zorg, emotionele ondersteuning, toegang tot zorg, continuïteit van zorg, het verstrekken van informatie en educatie, en de betrokkenheid van familie en vrienden.

Hoewel persoonsgerichte zorg aantoonbare voordelen heeft opgeleverd binnen diverse zorgcontexten, is er nog beperkt onderzoek gedaan naar de toepassing ervan bij patiënten met obesitas. Het voornaamste doel van dit proefschrift was om het potentieel van persoonsgerichte zorg te verkennen in het verbeteren van zorg en ondersteuning voor deze doelgroep.

Hoofdstuk 2: Opvattingen van patiënten met obesitas over persoonsgerichte zorg: een Q-methodologiestudie

Om beter tegemoet te kunnen komen aan de behoeften van patiënten met obesitas, is het belangrijk inzicht te krijgen in hun perspectieven op zorg en ondersteuning, en te achterhalen welke aspecten zij het meest belangrijk vinden. In dit hoofdstuk worden de bevindingen gepresenteerd van een Q-methodologisch onderzoek naar hoe patiënten met obesitas het relatieve belang van de acht dimensies van persoonsgerichte zorg beoordelen.

Patiënten met perspectief 1, ‘iemand die zonder vooroordelen luistert’, willen dat zorgverleners verder kijken dan alleen hun gewicht, verlangen ernaar om serieuzer genomen te worden, en zoeken erkenning voor de complexiteit van hun situatie. Dit perspectief verklaarde de meeste variantie in de data en werd door het hoogste aantal respondenten ondersteund. Patiënten met perspectief 2, ‘alles moet soepel verlopen’, hechten waarde aan goed georganiseerde en toegankelijke zorg. Patiënten met perspectief 3, ‘interpersoonlijke communicatie is essentieel’, geven de voorkeur aan informatieve zorg. Patiënten met perspectief 4, ‘ik wil mijn onafhankelijkheid behouden', worden gedreven door de wens om zelfstandig te blijven. Tot slot zoeken patiënten met perspectief 5, 'ondersteuning voor mij en mijn dierbaren', hulp bij het betrekken van naasten bij hun zorg.

Hoewel de perspectieven uiteenliepen, werd met waardigheid en respect behandeld worden als belangrijk beschouwd binnen alle visies. Opvallend is dat patiënten verschilden in hun behoefte aan emotionele ondersteuning, en dat het betrekken van familie en vrienden over het algemeen als relatief onbelangrijk werd gezien. De bevindingen in dit hoofdstuk onderstrepen de noodzaak van zorg op maat en geven inzicht in de aspecten van zorg en ondersteuning die patiënten met obesitas het meest belangrijk vinden.

Hoofdstuk 3: Validatie van de 40-item en 24-item korte versie van het Person-Centred Obesity Care-instrument voor patiënten met obesitas

Er is een groeiende erkenning van de potentiële voordelen van persoonsgerichte zorg om de zorg en ondersteuning voor patiënten met obesitas te verbeteren, maar richtlijnen en hulpmiddelen blijven beperkt. In dit hoofdstuk wordt de ontwikkeling en validatie beschreven van twee versies van het Person-Centred Obesity Care (PCOC) instrument: een uitgebreide versie met 40 items en een verkorte versie met 24 items.

Beide instrumenten zijn gebaseerd op de acht dimensies van persoonsgerichte zorg: patiëntvoorkeuren, lichamelijk comfort, coördinatie van zorg, emotionele ondersteuning, toegang tot zorg, continuïteit van zorg, informatie en educatie, en betrokkenheid van familie en vrienden. De gegevens werden verzameld onder 590 Nederlandse volwassenen met obesitas. De analyses ondersteunden de structuur, betrouwbaarheid, en validiteit van beide versies van het instrument. De verkorte versie bleek vergelijkbaar te presteren met de volledige versie, wat het een praktische optie maakt voor gebruik in settings waar tijd beperkt is.

Deze instrumenten vormen waardvolle hulpmiddelen om te evalueren in hoeverre zorg persoonsgericht is, en kunnen zorgverleners en onderzoekers helpen om sterke punten en verbeterpunten te identificeren in de zorg en ondersteuning voor patiënten met obesitas.

Hoofdstuk 4: Ervaren gewichtsgerelateerd stigma in de zorg onder volwassenen met obesitas: een cross-sectioneel onderzoek naar de relatie met patiëntkenmerken en persoonsgerichte zorg

Patiënten met obesitas worden in zorgomgevingen vaak geconfronteerd met gewichtsgerelateerd stigma, met zorgwekkende gevolgen voor hun ervaringen en uitkomsten van zorg. Dit hoofdstuk presenteert de resultaten van een onderzoek naar ervaren gewichtsgerelateerd stigma in de zorg en de cross-sectionele relaties daarvan met patiëntkenmerken en PCC, op basis van beschrijvende, correlationele, en multivariate analyses.

Uit surveygegevens van 590 Nederlandse volwassenen met verschillende obesitasklassen bleek dat 41% van de deelnemers met klasse I, 59% met klasse II, en 80% met klasse III ten minste één ervaring met gewichtsgerelateerd stigma rapporteerden. Jongere leeftijd, een hogere BMI, en de aanwezigheid van andere chronische aandoeningen waren geassocieerd met een grotere mate van ervaren stigma. Binnen alle obesitasklassen hadden de meest gerapporteerde ervaringen betrekking op de manier waarop het onderwerp gewichtsverlies werd besproken. Veelvoorkomende ervaringen betroffen het ontvangen van ongevraagd dieetadvies, het advies om af te vallen zonder dat passende behandelmogelijkheden werden aangeboden, en het toeschrijven van als niet-gerelateerd ervaren lichamelijke klachten aan gewicht. Naarmate de ernst van obesitas toenam, nam ook de kans op het ervaren van stigma toe. Onder deelnemers met obesitas klasse III werd daarnaast een breder scala aan ervaringen geobserveerd, waaronder vaker voorkomende ervaringen van ridicule, het gevoel als minder competent of lui te worden behandeld, en problemen met de fysieke zorgomgeving, zoals te kleine stoelen of niet-passende apparatuur. Een belangrijke bevinding was de negatieve relatie tussen ervaren gewichtsgerelateerd stigma en persoonsgerichte zorg; deelnemers die meer stigma rapporteerden, beoordeelden hun zorg significant minder als persoonsgericht.

De bevindingen in dit hoofdstuk onderstrepen de aanzienlijke impact van gewichtsgerelateerd stigma op de zorgervaringen van patiënten met obesitas. Een effectieve vermindering van dit stigma vereist brede inspanningen binnen het zorgsysteem, waaronder het vergroten van het bewustzijn bij zorgprofessionals over het belang van sensitieve en ondersteunende communicatie over gewicht, én het waarborgen van zorgomgevingen en interacties die respectvol, inclusief en passend zijn voor alle patiënten.

Hoofdstuk 5: De relatie tussen persoonsgerichte zorg en het welzijn en de tevredenheid over de zorg van patiënten met obesitas

Persoonsgerichte zorg wordt geassocieerd met verbeterd welzijn van patiënten en een hogere mate van tevredenheid met de zorg, maar de impact ervan op patiënten met obesitas is nog onvoldoende vastgesteld. Dit hoofdstuk presenteert de resultaten van een cross-sectioneel onderzoek naar de relatie tussen ervaringen met persoonsgerichte zorg, welzijn, en tevredenheid met de zorg binnen een representatieve landelijke steekproef van 590 Nederlandse volwassenen met obesitas.

Deelnemers vulden het 40-item PCOC-instrument in, ontwikkeld om persoonsgerichte zorg onder mensen met obesitas te meten, naast gevalideerde vragenlijsten over fysiek en sociaal welzijn en tevredenheid met de zorg. Van alle persoonsgerichte zorg dimensies werd 'toegang tot zorg' door deelnemers het hoogst beoordeeld, terwijl 'coördinatie van zorg' het laagst scoorde. Correlatie- en multipele regressieanalyses toonden aan dat persoonsgerichte zorg positief samenhing met zowel fysiek en sociaal welzijn als met tevredenheid met de zorg. Deze verbanden bleven significant nadat werd gecontroleerd voor variabelen zoals leeftijd, BMI en de aanwezigheid van andere chronische aandoeningen.

Deze bevindingen suggereren dat persoonsgerichte zorg potentie heeft om de uitkomsten voor patiënten met obesitas te verbeteren. Het verbeteren van de zorgervaring in deze populatie vraagt mogelijk om gerichte aandacht voor dimensies zoals coördinatie van zorg en emotionele ondersteuning, die relatief laag werden beoordeeld.

Hoofdstuk 6: Algemene discussie

De bevindingen van dit proefschrift onderstrepen het potentieel van een persoonsgerichte aanpak om de zorg en ondersteuning voor patiënten met obesitas te verbeteren. Dit vraagt om een brede, integrale benadering die recht doet aan de complexiteit van de aandoening en die respectvol en responsief is ten opzichte van de individuele omstandigheden van patiënten. Veel patiënten geven aan zich niet gehoord of begrepen te voelen en ervaren regelmatig gewichtsgerelateerd stigma binnen de zorg, wat wijst op de noodzaak van een meer empathisch en inclusiever zorgmodel.

Aandacht is nodig voor aspecten van de zorg die vaak onderbelicht blijven, zoals emotionele en sociale ondersteuning. Sommige patiënten hebben mogelijk het meeste baat bij directe psychologische zorg, terwijl anderen wellicht ondersteund kunnen worden via een multidisciplinaire aanpak of door steun van lotgenoten. Sommige patiënten zijn terughoudend in het betrekken van familie of vrienden bij hun zorgtraject, wat het belang benadrukt van een beter begrip van en respons op de sociale context van patiënten. Het betrekken van mensen met ervaringsdeskundigheid bij het ontwerpen van zorg en beleid kan bijdragen aan zorg die beter aansluit op de werkelijke behoeften van deze groep. Ook het tegengaan van gefragmenteerde zorg is van groot belang. Geïntegreerde, multidisciplinaire modellen, zoals de Nederlandse netwerkaanpak, kunnen een effectiever antwoord bieden op de complexe en uiteenlopende behoeften van mensen met obesitas.

De resultaten onderstrepen verder het belang van het loslaten van te simplistische opvattingen die obesitas uitsluitend beschouwen als een kwestie van persoonlijke verantwoordelijkheid. Obesitas is een complexe, chronische aandoening die wordt beïnvloed door een breed scala aan biologische, psychologische en sociale factoren. Eenvoudige adviezen zoals “eet minder, beweeg meer” doen geen recht aan deze complexiteit en versterken het stigma. Gesprekken over gewicht zouden met toestemming moeten beginnen en op een empathische en respectvolle manier moeten worden gevoerd. Om adequate en niet-stigmatiserende zorg te kunnen bieden, moeten zorgprofessionals worden ondersteund met betere opleiding en training over de multifactoriële aard van obesitas en over het voorkomen en de schadelijke gevolgen van gewichtsstigma. Daarnaast moeten zorgomgevingen passend zijn ingericht om patiënten met obesitas goed te kunnen ontvangen en behandelen. Nieuwe screeningsinstrumenten, zoals www.checkoorzakenovergewicht.nl, kunnen helpen om onderliggende oorzaken in kaart te brengen en zorg beter af te stemmen op de individuele situatie van de patiënt.

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PORTFOLIO

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Presentations

Presentation at the Partnerschap Overgewicht Nederland partnerbijeenkomst: “Persoonsgerichte zorg”	2024
Presentation at the Partnerschap Overgewicht Nederland learning community netwerkaanpak overgewicht en obesitas volwassenen: “Persoonsgerichte zorg”	2024
Speaker at the Centrum Gezond Gewicht patiënten symposium ‘genetische obesitas’: “Workshop stigma en bejegening”	2024
Poster presentation at the 30th European Congress on Obesity: “Perceived weight stigma in healthcare settings: a cross-sectional investigation of the relationship with patient characteristics and person-centred care among adults living with obesity in the Netherlands”	2023
Poster presentation at the 2022 European Congress on Obesity: “Perceived weight stigma in healthcare settings: Views of patients with obesity on person-centred care: a Q-methodology study”	2022
Speaker at the ESHPM symposium ‘Persoonsgerichte zorg voor kwetsbare groepen’: “Persoonsgerichte zorg voor mensen met obesitas”	2022
Presentation at the Partnerschap Overgewicht Nederland meeting ‘Individuele, universele en selectieve preventie’: “Persoonsgerichte zorg”	2022
Presentation at Centrum Gezond Gewicht research meeting: “Views of patients with obesity on person-centred care: A Q-methodology study”	2022
Several presentations for Partnerschap Overgewicht Nederland (e.g. the eight dimensions of PCC framework, preliminary results of the Q-study and survey among patients living with obesity, and key take-aways for PCC in practice)	2020–2025

Courses

PhD courses (Erasmus Graduate School for Social Sciences and the Humanities)	
Shut up and write!	2024
Research grants: opportunities and core skills	2024
Communicating your research: lessons from Bitescience	2023
Maximise your visibility as a researcher	2023

Searching and managing your literature	2023
Qualitative coding with ATLAS.ti	2021
Mixed method research: how to combine diverse quantitative and qualitative methods	2021
Professionalism and integrity in research	2021
How to finish your PhD in time	2021
Q-methodology	2021

Teaching courses (Risbo)

Group dynamics	2021
Basic didactics	2021
Coachvaardigheden	2021

Other

Social safety (ESHPM)	2022
Dilemma game (ESHPM)	2021
Het vrouwenbrein (VENA)	2021

Teaching activities

Bachelor Health Policy and Management

Thesis supervisor	2024–2025
Meeloopdag Plus	2023
Thesis coach	2020–2022

Pre-master Health Policy and Management

Tutor Sociaal-Medische Wetenschappen	2020–2025

Master Health Care Management

Field trips Patient Centered Care Delivery	2024
Lecturer Patient Centered Care Delivery	2023–2024
Boardmeetings curriculum herziening	2022–2023
Tutor Patient Centered Care Delivery	2021–2023

Conferences and symposia

Nationaal Obesitas Congres 2025	2025
Het Grote Kinder Obesitasdebat 2024: Het gewicht van morgen	2024
Nationaal Obesitas Congres 2024	2024
Patiënten symposium ‘Genetische obesitas’	2024
Symposium ‘Netwerkaanpak overgewicht en obesitas voor volwassenen’	2024
30th European Congress on Obesity (ECO 2023)	2023
Towards healthy societies: from resilient governance to digital health solutions	2023
Symposium ‘Academisch onderwijs tijdens de COVID-19 pandemie’	2022
Het Grote Obesitas Debat 2022	2022
ZoomForward22 – the 29th European Congress on Obesity	2022
Aletta Research Meet-up: Obesity	2022
Symposium 'Samenwerken in preventie en zorg voor kinderen met overgewicht en obesitas. Waar staan we nu met de aanpak Kind naar Gezonder Gewicht?’	2022
Symposium ‘Persoonsgerichte zorg voor kwetsbare groepen’	2022
Het Grote Obesitas Debat 2021	2021
28th annual European Congress on Obesity (ECO Online 2021)	2021

International Publications

Included in this dissertation

Crompvoets PI, Cramm JM, van Rossum EFC, Nieboer AP. Views of patients with obesity on person-centred care: a Q-methodology study. *Health Expect*. 2022;25(6):3017-3026.

Crompvoets PI, Nieboer AP, van Rossum EFC, Cramm JM. Validation of the 40-item and 24-item short version of the Person-Centred Obesity Care instrument for patients living with obesity. *Obes Facts*. Published online September 24, 2024.

Crompvoets PI, Nieboer AP, van Rossum EFC, Cramm JM. Perceived weight stigma in healthcare settings among adults living with obesity: a cross-sectional investigation of the relationship with patient characteristics and person-centred care. *Health Expect*. 2024;27(1):e13954.

Crompvoets PI, Nieboer AP, van Rossum EFC, Cramm JM. The relationship between person-centred care and well-being and satisfaction with care of patients living with obesity. *Int J Qual Health Care*. 2024;36(3):mzae078.

Not included in this dissertation

Schakel L, Veldhuijzen DS, Crompvoets PI, et al. Effectiveness of stress-reducing interventions on the response to challenges to the immune system: a meta-analytic review. *Psychother Psychosom*. 2019;88(5):274-286.

Other

Leefstijl in de zorg: “Stigmatisering bij obesitas: ‘Soms worden mensen zelfs uitgescholden’” (interview)	2024
DOQ: “‘Minder eten en meer bewegen’ is echt een misvatting” (interview)	2024
European Association for the Study of Obesity (EASO): “Introducing Paige Crompvoets, ECN Member from The Netherlands” (blog)	2024
Obesitas Platform: “Patiëntervaringen met obesitas stigma in de zorg” (video interview)	2023
European Association for the Study of Obesity (EASO) Policy Knowledge Center: “Different types of patients research model” (video interview)	2023
Leefstijl in de zorg: “Zorg voor mensen met obesitas vraagt om maatwerk” (interview)	2022
Partnerschap Overgewicht Nederland: “Persoonsgerichte zorg voor patiënten met obesitas: verschillende visies” (blog)	2022

ABOUT THE AUTHOR

Paige Crompvoets was born on the 18th of November 1993 in The Hague, The Netherlands. After obtaining her propaedeutic diploma in Applied Psychology at Saxion University of Applied Sciences, she began her academic journey at Leiden University. There, she earned a bachelor's degree in Psychology (cum laude) and completed the extracurricular honours programme *Science and Society*. Her interest in research was sparked during the final year of her bachelor's programme, when she participated in an extended and research-intensive thesis track. She continued her studies at Leiden University by enrolling in the research master in Clinical and Health Psychology, which she combined with courses from the master's programme in Clinical Psychology, graduating cum laude. During her studies, she worked as a research assistant at Leiden University, contributing to various projects within the Health, Medical and Neuropsychology unit and the Clinical Psychology unit. Driven by a passion for integrating psychology with health promotion, disease prevention, and chronic disease management, she started as a PhD candidate in late 2020 at the Erasmus School of Health Policy & Management (ESHPM, Erasmus University Rotterdam) and the Erasmus University Medical Center (Erasmus MC), which resulted in this dissertation. The results of her research have been published in international peer-reviewed journals and were presented at both national and international conferences and symposia. Throughout her PhD, Paige was also actively involved in teaching at ESPHM, where she taught courses such as *Patient-Centered Care Delivery* and *Socio-Medical Sciences,* and supervised bachelor's theses.