

# Doctors and patients' perspectives on obesity. A Q-methodology study

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## Abstract

**Background:** Obesity is associated with stigma and discrimination. Health care providers should approach these patients professionally and without stigma, since treatment of obesity requires a relationship with mutual understanding between the doctor and patient.

**Objective:** To explore how patients and general practitioners (GPs) perceive obesity, using Q-methodology, which allows quantitative analysis of qualitative data.

**Methods:** A Q-methodology study, comprising 24 patients with obesity and 24 GPs. We created 48 statements with viewpoints on obesity. All participants sorted these statements in a forced grid with a quasi-normal distribution ranking from –5 (most disagree) to +5 (most agree). Subsequently, factor analysis was performed. Six patients were interviewed to explain their viewpoints.

**Results:** Analysis yielded 3 dominant groups (factors) of patients: (i) They acknowledge the importance of healthy lifestyle and feel mistreated by health care. (ii) They have a decreased quality of life, but do not blame health care, and (iii) They don't need treatment and don't have an impaired quality of life. For the GPs, the 3 dominant factors were: (i) They have understanding for the patients and feel that health care is insufficient, (ii) They believe that obesity may be hereditary but mainly is a lifestyle problem, and (iii) They believe obesity can be treated but is very difficult.

**Conclusions:** Viewpoints on obesity were different, both within and between the groups. Some GPs consider obesity mainly as a lifestyle problem, rather than a chronic disease. If patients and doctors can find mutual viewpoints on obesity, both patient satisfaction and a treatment strategy will be more effective.

## Lay Summary

Obesity affects quality of life and increases the risk of diseases such as type 2 diabetes, fatty liver disease, cardiovascular disease, and cancer. Achieving and maintaining weight loss is difficult and for this reason a mutual understanding between the general practitioner (GP) and the patient is crucial. We used Q-methodology to study the patients and GPs perspectives on obesity. We show that there are different groups of patients that have different perspectives on obesity, but also different groups of doctors who have different perspectives on obesity. If the GP is aware of the fact that the patients' viewpoints regarding obesity may be different than his/her own viewpoints, it allows improvement of the doctor–patient communication and hence, patient satisfaction.

**Key words:** factor analysis (statistical), health communication, obesity, patient satisfaction, primary health care, qualitative research

## Introduction

The misconception that obesity is a lifestyle choice, that can be reversed simply by exercising willpower, has become cemented in the minds of the general public and much of the medical profession. However, obesity has now been acknowledged by the European Commission as a disease in its own right.<sup>1</sup> The obesity pandemic is getting worse in both adults and children and adolescents.<sup>2</sup> In Sweden, 15% of women and 16% of men suffer from obesity.<sup>3</sup> It is a complex chronic metabolic disease with a multifactorial pathogenesis,<sup>4</sup> associated with type 2 diabetes mellitus, nonalcoholic fatty liver disease, cardiovascular diseases, and different types of cancer.<sup>5</sup> In addition, obesity has consequences for mental health as

a result of weight stigma and discrimination, and may lead to social isolation.<sup>6</sup> Current treatments for obesity comprise lifestyle changes including diet and exercise, drugs, psychotherapy, and bariatric surgery.<sup>7</sup>

The general practitioner (GP) is often the first doctor who meets the patient with obesity-related problems. However, as mentioned above, many GPs do not consider obesity as a serious medical condition that requires treatment,<sup>8</sup> but rather as a lifestyle problem. This discrepancy has a negative impact on the relationship between doctors and patients. In addition, there is scepticism regarding the treatment options for obesity, but GPs still recommended them in order to maintain a good relationship with the patient.<sup>9</sup> Previous research demonstrates



## Data analysis

Two members from the research team (QS and KB) imported the anonymized results in PQMethod software.<sup>8</sup> The first step in the analysis was data reduction to summarize factors based on principal component analysis (PCA). The factors were extracted from both the patient and the GP group. We calculated the Z-scores, based on the factor scores from the PCA for every statement, which represented how much each factor agreed or disagreed on every statement.<sup>12</sup> A Pearson's correlation analysis was performed (SPSS Statistics version 25, IBM Corp, Armonk, NY) to compare the 2 groups, using the Z-scores from every statement from the patient and GP factors.

## Results

We extracted 3 different factors from each group. Each factor represented a general viewpoint and was named after

their distinguishing statements, as shown in Tables 1 and 2. Correlations between Z-scores for each statement between all factors are presented in Table 3.

Table 4 shows the statements where the different patients and GP factors agreed and disagreed on most. The extracted factors from the patients explained 62% of the variance of the original Q-sorts and the extracted 3 factors from the GPs also explained 62% of the variance. In factor analysis, this is considered as a valid and acceptable proportion of variance explained by a construct.

### Factor 1 (patients): have knowledge about healthy food- and exercise habits and feel mistreated by health care providers

Nine patients showed knowledge about lifestyle changes that lead to weight loss but they do not have good experiences with these lifestyle changes. In contrast to the other patients'

**Table 1.** Distinguishing statements for the patient factors and their rank scores.

Factor	Statement	Factor 1	Factor 2	Factor 3	
Patient factor 1	41. Health care providers treat patients with obesity worse than those without	5	-1	1	
	7. Individuals with obesity have knowledge about healthy food	2	-1	0	
	9. Individuals with obesity understand the importance of eating healthy	2	0	0	
	43. Individuals with obesity have an impaired quality of life	1	4	-2	
	17. Regular meals protect against obesity	0	1	2	
	19. At least 30 min physical activity per day protects against weight gain	0	2	2	
	1. Obesity can be prevented	0	2	5	
	15. By reducing energy-rich food, weight loss will occur	-1	1	2	
	8. Individuals with obesity have healthy food habits	-1	-5	1	
	13. Obesity is more common among people with higher education and income	-2	-3	-5	
	48. Individuals with obesity who increase their physical activity lose weight	-2	3	1	
	Patient factor 2	43. Individuals with obesity have an impaired quality of life	1	4	-2
		28. Early childhood is the time when food- and exercise habits are established	0	3	0
30. If you have parents who have obesity, you will develop obesity yourself		-1	1	-2	
47. Individuals with obesity receive enough support from healthcare		-4	0	-3	
44. Use of certain drugs leads to obesity		2	0	4	
36. Individuals with obesity have knowledge about the risks with obesity		3	0	3	
40. Doctors have too little knowledge about obesity		3	-1	2	
41. Health care providers treat patients with obesity worse than those without		5	-1	1	
24. Alcohol consumption does not increase the risk of weight gain		-1	-2	0	
46. Weight loss does not provide increased quality of life		0	-4	1	
Patient factor 3	8. Individuals with obesity have healthy food habits	-1	-5	1	
	21. Physical activity improves health regardless of weight	3	2	5	
	5. Obesity is not hereditary	-2	-2	3	
	18. Obesity is often used as an excuse for not exercising	-3	-1	1	
	8. Individuals with obesity have healthy food habits	-1	-5	1	
	41. Health care providers treat patients with obesity worse than those without	5	-1	1	
	3. Obesity is a person's own choice	-5	-4	0	
	34. Individuals with obesity need treatment	2	3	-1	
	37. Individuals with obesity are not interested in their weight	-4	-3	-1	
	39. Abuse in childhood increases the risk of obesity	1	1	-1	
	43. Individuals with obesity have an impaired quality of life	1	4	-2	
	45. Obesity is an eating disorder	1	0	-3	
38. Individuals with obesity often feel bad mentally	4	4	-4		
33. Obesity is a lifelong disease	1	1	-4		

Bold value shows the rank score of significant statements for the specified patient factor.

**Table 2.** Distinguishing statements for the GP factors and their rank scores.

Factor	Statement	Factor 1	Factor 2	Factor 3
GP factor 1	41. Health care providers treats patients with obesity worse than those without weight problem	3	-3	-2
	9. Individuals with obesity understand the importance of eating healthy	2	0	0
	40. Doctors have too little knowledge about obesity	1	-1	-1
	35. There is no effective treatment for obesity	0	-2	-4
	48. Individuals with obesity who increase their exercise will lose weight	-2	3	0
	37. Individuals with obesity are not interested of their weight	-4	-1	-2
	3. Obesity is a person's own choice	-4	0	0
GP factor 2	45. Obesity is an eating disorder	-1	4	-2
	48. Individuals with obesity who increase their exercise will lose weight	-2	3	0
	23. Smoking increases the risk of weight gain	-1	1	-3
	25. The public judges individuals with obesity	4	1	4
	13. Obesity is more common among people with higher education and income	-5	0	-5
	26. To lose weight is easy	-5	-2	-4
	7. Individuals with obesity have knowledge about healthy food	0	-2	2
	24. Alcohol consumption does not increase the risk of weight gain	-2	-4	-2
GP factor 3	5. Obesity is not hereditary	-2	-5	-3
	11. It is enough to change food habits to lose weight	-1	-3	2
	46. Weight loss does not provide increased quality of life	-3	-4	0
	48. Individuals with obesity who increase their exercise will lose weight	-2	3	0
	17. Regular meals protect against obesity	2	3	0
	33. Obesity is a lifelong disease	1	2	-1
	6. Individuals with obesity have an unhealthy lifestyle	-2	-1	-4
	32. 5-10% weight loss is not enough to live longer	-3	-1	-5

Bold value shows the rank score of significant statements for the specified patient factor.

**Table 3.** Correlations between Z-scores for each statement between all factors according to Pearson's correlation analysis (*P* values).

	Patient factor 1	Patient factor 2	Patient factor 3
GP factor 1	0.808	0.773	0.568
GP factor 2	0.421	0.770	0.262
GP factor 3	0.471	0.792	0.509

The table shows that the correlations between the factors varied. Patient factor 1 had the highest correlation ( $r = 0.808, P = <0.001$ ) with GP factor 1. However, it has a weak correlation with other GP factors. Patient factor 2 correlated well with all GP factors, meanwhile, patient factor 3 had a moderate correlation with 2 GP factors and the lowest correlation with GP factor 2.

viewpoints, these patients strongly feel that health care is mistreating them.

One patient said:

I received documentation about a gastric bypass when I sought care for a urinary tract infection. They only think that I have to train more, eat a low-calorie diet or should have a gastric bypass. You do not get help or support for anything else.

**Factor 2 (patients): suffering from obesity for a long time but do not blame health care providers**

Seven patients with obesity highlighted that early childhood is the time when food- and exercise habits are developed and that there is a hereditary component. These patients confirm that obesity affects their quality of life. They believe that doctors have sufficient knowledge about obesity and that they receive support from health care providers. One patient said:

“I have had problems with my weight and hypothyroidism since birth and even though I am told to eat right and despite doing so, you are criticized that you do not. Throughout my whole childhood, I have eaten according to the plate model but I am still not properly treated.”

This patient explained that she felt criticized by her environment and although she felt that she was not treated adequately, she understood how difficult it is to treat obesity.

**Factor 3 (patients): do not think that obesity has an impact on the quality of life and do not think they need any help**

Five patients believed that obesity does not affect the quality of life and that it is not a hereditary condition. Although they are aware of their condition, they do not think they need treatment, and in contrast to other viewpoints, they do not think that obesity is a lifelong disease. One patient said:

**Table 4.** Statements where the different patients and GP factors agreed and disagreed on most.

Group and factor number	Significantly loaded statements	Z-Score
Patients factor 1	25. The public judges individuals with obesity	1.617
	41. Health care providers treat patients with obesity worse than those without	1.516
	27. To keep the weight stable after weight loss is difficult	1.384
	2. Individuals with obesity are lazy	-1.830
	3. Obesity is a person's own choice	-1.941
Patients factor 2	42. Individuals with obesity do not want to lose weight	-2.061
	27. To keep the weight stable after weight loss is difficult	1.900
	25. The public judges individuals with obesity	1.573
	14. Obesity is a disease with several different causes	1.474
	10. Snacks eating do not lead to obesity	-1.435
Patients factor 3	8. Individuals with obesity have healthy food habits	-1.462
	26. To lose weight is easy	-1.960
	21. Physical activity improves health regardless of weight	1.857
	1. Obesity can be prevented	1.569
	44. Use of certain drugs leads to obesity	1.445
GPs factor 1	33. Obesity is a lifelong disease	-1.522
	13. Obesity is more common among people with higher education and income	-1.584
	26. To lose weight is easy	-1.778
	21. Physical activity improves health, regardless of weight	2.019
	27. To keep the weight stable after weight loss is difficult	1.637
GPs factor 2	44. Use of certain drugs leads to obesity	1.360
	42. Individuals with obesity do not want to lose weight	-1.529
	26. To lose weight is easy	-1.627
	13. Obesity is more common among people with higher education and income	-1.807
	21. Physical activity improves health, regardless of weight	2.079
GPs factor 3	14. Obesity is a disease with several different causes	2.052
	28. Early childhood is the time where food- and exercise habits are developed	1.323
	24. Alcohol consumption does not increase the risk of weight gain	-1.688
	5. Obesity is not hereditary	-1.914
	22. Stress does not increase the risk of weight gain	-2.001
GPs factor 3	21. Physical activity improves health, regardless of weight	1.996
	27. To keep the weight stable after weight loss is difficult	1.860
	25. The public judges individuals with obesity	1.594
	26. To lose weight is easy	-1.742
	32. 5–10% weight loss is not enough to live longer	-1.849
	13. Obesity is more common among people with higher education and income	-2.014

The table shows the similarities and differences between the patient factors and GP factors. Among the patients, many personal statements were ranked highly. Among the GPs, medical facts about obesity were ranked highly. The majority disagreed with statement 26 and the majority agreed with statement 27. All GP factors and 1 patient factor agreed the most with statement 21, meanwhile 2 patient factors and 1 GP factor ranked statement 25 very highly.

I think obesity depends on many things, both medications but also life situation. I think that if you look backward and look when you became obese, you can relate it to something that happened during that time.

#### Factor 1 (GP): understand the patients and believe that health care provides insufficient support

Ten doctors believed they have insufficient knowledge about obesity and that health care providers treat the patients with obesity worse than those without obesity. There is a certain understanding for these patients. Distinguishing for this viewpoint is that they are not sure whether there is an effective treatment for obesity.

#### Factor 2 (GP): believe that obesity is hereditary and an eating disorder

Four doctors believed that obesity is an eating disorder, as well as a hereditary condition. They agreed the least with the statement that people with obesity are negatively judged and disagreed the least with the statement that losing weight is easy.

#### Factor 3 (GPs): obesity is not a lifelong disease but it is difficult to lose weight

Seven doctors believed that patients with obesity have a healthy lifestyle and that it is sufficient to change food habits to lose weight. However, they do not have an opinion regarding whether weight loss increases the quality of life or

whether exercise leads to weight loss. Distinguishing from the other viewpoints, they believe that obesity is not a lifelong disease.

## Discussion

Several studies have shown the importance of good communication between GPs and patients.<sup>10</sup> In our study we focussed on the different perspectives on obesity both within and between GPs and patients. Our findings show some differences and similarities in ranking between the distinguishing statements for the patients and GPs, leading to 6 different factors on obesity. Three factors from patients and 3 factors from GPs were considered important in this study.

### Comparison to existing literature

Patient factor 1 underlined their belief of the importance of combining diet and exercise for an effective weight loss<sup>15</sup> even though other studies suggest that also behavioural strategies such as self-monitoring are required for a successful result.<sup>16</sup> Besides that, this group agreed strongly on the statement that health care providers treat patients with obesity worse than those without obesity, which the other groups did not. This patient factor had a high correlation with GP factor 1. The correlation between patient factor 1 and the other GP factors was much lower, which may be explained by the fact that these GPs did not highlight statements that were associated with discrimination and lack of knowledge about obesity. Instead, they highlighted medical facts about obesity, which these patients did not take into consideration.

In patient factor 2, this group seemed to have struggled with obesity for a long time and they were unsure whether health care providers could do more for them. This patient group believed that patients with obesity have unhealthy eating habits, and they were neutral about their knowledge regarding obesity-associated health risks. They confirmed that doctors have adequate knowledge about obesity, and did not feel that they were treated any differently than patients without obesity. This is in line with studies in which patients with obesity reported positive experiences with health care.<sup>17</sup> They also confirmed that obesity has an impact on quality of life, thus confirming previous research regarding the relationship between obesity and a decreased quality of life.<sup>18</sup> This viewpoint had a similar correlation with all the GP viewpoints, which means that they share similar opinions about these statements.

Patient factor 3 differed from the other patient factors and showed a belief that patients with obesity neither need treatment, nor have an impaired quality of life. This shows that there are patients with obesity who are less affected by their condition. These patients strongly disagreed on the statement that patients with obesity suffer from impaired mental health, although previous studies demonstrate that obesity and depression often coexist and are interrelated.<sup>19,20</sup> They also disagreed on the statement that obesity is a hereditary condition, and they were neutral about obesity as being a persons' own choice, as well as that they agreed on that patients with obesity have healthy food habits. These patients neither seemed to feel bad about having obesity, nor did they want any help and nor did they consider obesity as a lifelong disease, which

almost all other viewpoints did, except GP factor 3. Patient factor 3 had the lowest correlation with all GP viewpoints, especially with GP factor 2, who strongly agreed on obesity as an eating disorder and strongly agreed on obesity as a hereditary condition. Obviously, this group do not consider obesity as a chronic metabolic disease.

### Strengths and limitations

We used a method that is well established in the social sciences, but remains a relatively novel approach in medical sciences. The major strength of this method is that Q-methodology allows statistical interpretation of qualitative data and provides a powerful method to investigate differences and similarities in viewpoints between doctors and patients regarding their condition.

There are some limitations. Selection bias may have been introduced. The GPs who participated may have been more interested in obesity and were motivated to make a change, compared with the GPs that did not choose to participate. Secondly, the participating patients may have had more negative experiences with health care providers and they may experience a more impaired health and participated for this reason.

## Conclusions

We showed that viewpoints on obesity are different, both within and between patients and GPs. A patient may have completely different viewpoints regarding his/her condition than the GP. Some GPs show viewpoints that are not supported by the current knowledge, such as considering obesity mainly as a lifestyle problem, rather than a chronic disease. In addition, our findings show that a considerable number of patients feel stigmatized because of their obesity, and experience impaired quality of life. For these reasons, awareness of these differences is relevant for clinical practice; if the GP and the patient are able to find mutual viewpoints about obesity, patient satisfaction will improve and a treatment and/or support strategy will be more effective.

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## Ethical approval

Ethical approval was granted by the Etikprövningsmyndigheten Uppsala (Dnr 2019-04756).

## Conflict of interest

None declared.

## Data availability

The data underlying this article will be shared on reasonable request to the corresponding author.

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