

Towards Precision Health in Weight Reduction: Thematic Content Analysis of an Open-Ended Survey on Reasons Why Morbidly Obese Patients Want to Lose Weight.

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Research article

Keywords: Weight management, Weight loss, Reasons to lose weight, Motivations to lose weight, Obesity, Thematic content analysis

Posted Date: July 22nd, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-42745/v1>

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Abstract

Background: Addressing individuals' motivation to lose weight among patients with morbid obesity is an essential entity in weight reduction. Failures to shift motivation into weight loss actions are common. These could be contributed by the inadequacy to identify and subsequently address the key reasons, that are of particular concern to the patient's individual needs. We aimed to understand the motivations better and identify the reasons why morbidly obese patients attending hospital-based weight management programmes (WMP) wanted to lose weight.

Methods: The study used a qualitative approach to analyze part of a quantitative questionnaire of a more extensive study to understand factors influencing weight loss among morbidly obese patients. We used thematic content analysis to analyze responses from a self-administered open-ended question "What is the main factor why you want to lose your weight?". A total of 225 new patients attending obesity clinics in two tertiary hospitals responded to the questionnaire.

Results: Patients' mean BMI was 45.6 ± 8.05 kg/m². Four themes emerged for the reasons why morbidly obese patients wanted to lose weight. Health was the most commonly inferred theme (84%). Patients were concerned about the impact obesity had on their health. Overcoming obesity was seen as a reward not just for physical health, but also for their psychological wellbeing. Patients regard being functional to care for themselves, their family members, as well as their religious and career needs as the next most crucial theme (25.8%). Patients raised the theme appearance (12.9%), especially with regards to wanting to look and feel beautiful. The last theme was perceived stigmatization for being morbidly obese as they were mocked and laughed at for their appearance (3.1%).

Conclusion: Patients with morbid obesity in this study had expressed their main personal motivational reasons to lose weight. Concerns about the impact of morbid obesity on health, physical, social and obligatory function, appearance and perceived stigma warrant detailed exploration by the managing health professionals. Identifying and addressing these unique personal motivations in a focused approach is vital at the beginning and throughout a weight reduction program in this unique group.

Background

Obesity is associated with multiple health co-morbidities (1, 2) and mortalities affecting patients' physical, psychological, social and emotional aspects of health. (3). Combating obesity remains a global challenge (4, 5). While a modest weight loss of 5% or more among obese subjects can exert short-term health benefits (6), the key to the sustainability of these benefits is in the long-term weight maintenance (7). Those who regained their weight or did not achieve a clinically meaningful weight loss have the potential of losing back their initially gained health benefits (7).

Losing weight is a complex process involving behavioural change, understanding the patients' intention, attitude, and motivation (8). Studies have reported varying motivational reasons for weight loss (11, 12, 13). Among those who were enrolling into a weight loss program, health and appearance were among the most commonly cited reasons, and to a lesser extent, mood (12). Ayodele et al. (14) reported several shared motivational drives for weight loss among participants with obese classes II and III. These included pressure from the managing physician, family members and friends, appearance, perceived stigmatization and self-esteem, health issues, and concerns over risk factors for diseases.

Additionally, having a weight loss program in the hospital was one of the reported motivational factors for them. For a weight management programme (WMP) to be effective, greater emphasis on the reasons why patients want to lose weight need to be exercised (10). Understanding patient's motivational reasons provides the foundation for better communication between patients and doctors which can lead to better professional decisions for effective tailored weight management assignment (11, 12) and successful weight loss attempt and maintenance (15). Despite measures to lose and maintain weight, failing to address reasons that are of particular concerns to the patient's individual (9) may result in an unsuccessful weight loss attempt.

Morbidly obese patients are often managed in hospital-based WMP and require complex treatment approach (16). They may portray a different attitude and meaning towards obesity as opposed to those with mild to moderate obesity (17). A qualitative study on health belief and behaviour among Australian adults found that severely obese individuals felt an urgent need to change their health behaviours but felt powerless to do so. They had a more negative outlook on their obesity, weight loss and health outcomes and described feelings of disempowerment about their health and wellbeing as their weight increases (18). Successful weight loss has been challenging for patients with morbid obesity. A cohort study conducted in the United Kingdom on electronic medical records of primary care patients found that when compared to lower BMI, patients with morbid obesity had a higher probability of achieving 5% reduction in body, but were more likely to regain their weight, at 2 and 5 years period. Men with morbid obesity have the lowest percentage to attaining a normal BMI when compared to this with lower BMI or severely obese BMI (19). This poor weight maintenance among morbidly obese patients is multifactorial but may suggest that perhaps, more motivational factors may not have been explored. To better understand the reasons for weight loss, we examined an open-ended survey question among severely obese patients enrolling into a tertiary hospital-based weight management centre.

Methods

Design

This study is a qualitative component of more extensive research on 'Self-determination, motivational processes, predictors and barriers in morbidly obese patients attempting weight loss.' This paper concentrates on the findings of an open-ended question asked to enhance the quantitative findings in a self-administered questionnaire designed to understand factors influencing weight loss among morbidly obese patients. We collected data from new patients who attended a structured WMP run by a team of healthcare personnel, at baseline and subsequently at three months and six months, respectively. This paper focuses on the data collected at the baseline to determine the patients' reasons to lose weight before exposure to the WMP.

Patient recruitment

We collected data for two years, from December 2012 until December 2014. During this study period, we invited all new patients attending a structured WMP run in obesity clinics in two tertiary hospitals, Hospital Putrajaya and Hospital Kuala Lumpur to participate in the study. Attendance to these WMP was by referral only from various disciplines. Endocrinologists, medical officers, physiotherapists, dietitians and nurses were the team members in the WMP. One of the research team members approached the patients on their first visit to the clinics.

Tool

The question was available in English and the Malay Language; "What is the main factor why you want to lose your weight?" was translated into the Malay version as "*Apakah faktor utama sebab anda ingin mengurangkan berat badan?*". This individually answered open-ended question allows exploration and honest response in the patient's own words with greater anonymity, which is a recognized method to obtain rich qualitative text data (20).

Analysis

We analyzed demographic data using descriptive frequency and used thematic content analysis for primary data analysis. (21–24). Thematic content analysis was conducted using an iterative manners. Researchers identified keywords from the questionnaire responses and familiarized themselves with the responses to search for emerging patterns. Identified responses were labelled into codes (23). A deductive approach was used to link generated codes to the self-determination and social cognitive theories, to explain patients' attitude and behavioural change to weight loss attempts (25–27). We combined the codes sharing similar meanings into categories and utilized a mind-map technique to visualize the emerging themes from the broader concepts that emerged from categories with a similar focus (24). The researchers met several times to reach an agreement on codes, categories and themes, followed by quantification of the categories and themes. Finally, we selected a sample of quotes to represent the important themes best. The quotes in the Malay language were forward translated into English by two bilingual researchers and back-translated by another two bilingual researchers. All researchers agreed to the final translated quotes.

Ethical approval and consent to participate

We obtained ethical approval from the University Malaya Research Ethics Committee (UMREC), the Research Ethics Committee (REC) of Universiti Teknologi MARA, Malaysia and the National Medical Research Register (NMMR), National Institute of Health (NIH), Malaysia. Patients received a patient information sheet with an explanation about the study before completing the written informed consent.

Results

Demographic characteristics

Out of 289 subjects that enrolled in the obesity clinic and answered the questionnaire, a total of 225 patients responded to the open-ended question: "What is the main factor why you want to lose your weight?" thus representing a response rate of 78%. Demographic characteristics of the respondents are as in Table 1. The findings indicated a diverse group of subjects concerning gender, ethnicity, religion, education level and co-morbidities.

Table 1
Demographic Characteristic of Patients

Demographic	N = 225	Percentage (%)
Age	Mean = 39.33 ± 12.18	-
< 18	11	4.9
18–35	82	36.4
36–55	105	46.7
> 55	27	12
Gender		
Male	85	37.8
Female	140	62.2
Ethnicity		
Malay	186	83
Chinese	9	4.0
Indian	26	11.6
Others	3	1.3
Religion		
Islam	188	83.9
Buddha	6	2.7
Hindu	23	10.3
Christian	6	2.7
Other	1	0.4
Highest education level		
No formal education	2	0.9
Primary	12	5.5
Secondary	112	50.9
Tertiary	94	42.7
Marital status		
Married	132	60.8
Divorced	11	5.1
Widowed	6	2.8
Single	68	31.3
Co-morbidities		
Hypertension	131	63.6
Type 2 diabetes	87	42.2
Dyslipidaemia	75	36.4
Obstructive sleep apnoea	62	30.1
Stroke	1	0.5
Ischaemic heart disease	6	2.9
Weight		

Demographic	N = 225	Percentage (%)
Mean BMI (kg/m ²) at baseline	45.60 ± 8.05 kg/m ²	
Attrition after 6 months follow-up	142	44
At least 5% weight loss after 6 months follow-up	18	12.7

Majority of the patients are in class III or severe obesity range. The mean BMI was 45.6 ± 8.05 kg/m². They had multiple co-morbidities and a wide age range of between 13 and 65 years old with a mean age of 39.33 ± 12.18. The patients' age was classified into early adolescents (< 18 years old), young adults (18–35), middle-aged adults (36–55) and older adults (> 55 years old) (28), with the majority being within the young adult's group of 18 to 35 (n = 82) and middle age adult group of 36 to 55 years old (n = 105).

Themes and categories on the main reasons to lose weight

Four themes with several categories emerged from the thematic content analysis. The themes were health, function, appearance, and perceived stigma (Fig. 1). Under each theme, patients may infer to more than one category. The exact frequency of responses according to the theme and categories is represented in Table 2.

Theme 1: Health

The theme 'health' emerged strongly with more than three quarter (84%) of the patients inferred "health" as their main reason to lose weight. It was found that both male and female patients commonly inferred to the theme 'health'. A similar pattern was also identified across three age groups, the young adolescents of 18 to 35 years old, middle-age adults of 36 to 55 years old and older adults above 55 years old. Young adolescents below 18 years old were the least to mention 'health' as their motivation to lose weight. The category "to be healthy for self and practice healthy living" was commonly valued (58.2%).

"I want to be healthy and active" (Male in his 30 s, BMI 45.6 kg/m²)

"I want to practice a healthy lifestyle" (Male in his 40 s, BMI 36.3 kg/m²)

Forty-nine patients raised concerns over 'existing diseases and health risks' (21.8%).

Patients wrote on preventing new diseases, preventing worsening of diseases and worries over existing diseases as reasons to lose weight.

"I am afraid I will get chronic illnesses if I remain obese. I am afraid because of my

genetic factors" (Female in her 30 s, BMI 74.11 kg/m²)

"Overcoming problems related to high blood pressure and diabetes" (Female in her 30 s, BMI 41.85 kg/m²)

"Problem with hypertension and sleep apnoea" (Female in her 20 s, BMI 48.76 kg/m²)

Within the health rewards, patients highlighted several reasons for weight loss which included fertility, preoperative preparation and being able to go for surgical procedures such as circumcision and organ transplantation.

"Being able to get pregnant" (Female in her 30 s, BMI 37.55 kg/m²)

"For transplant and health ..." (Female in her 20 s, BMI 36.00 kg/m²)

Eight patients mentioned 'psychological health reward' as a reason to lose weight. Most wanted to raise their confidence level for social reasons. A minority of patients identified "ageing" as an element to lose weight.

"More confident to face the public" (Female in her 20 s, BMI 43.48 kg/m²)

"Reduce the risk of getting diseases because of my advancing age" (Male in his 30 s, BMI 42.25 kg/m²)

Theme 2: Function

An almost equal percentage of male and female patients inferred 'function' as their reason to lose weight. Based on the age groups, it was found that the theme 'function' was commonly expressed by the young adults of 18 to 35 years old and middle-age adults of 36 to 55 years of age,

followed by the early adolescents group below 18 years old and older adults above 55 years old. Within the theme 'function', four categories were identified, encompassing self, family and social, religious, and career. Generally, patients' reasons to lose weight gravitate around their function as an individual to perform something as simple as moving about and performing their favourite activities such as getting into beautiful local traditional wears. Additionally, patients also wanted to be able to function for their families, work, and religious duties.

Function-self

"Easy to move about and do daily activities" (Male in his 40 s, BMI 49.89 kg/m²)

"I would be able to buy clothes with ease" (Female in her 20 s, BMI 40.89 kg/m²)

Function-family and social

"I want to be healthy, so it is easier for me to move about and look after my sick mother and my child who is still small. (Female in her 50 s, BMI 48.73 kg/m²)

Function-religion

"Make it easy for me to do my religious obligations in various ways" (Male in his 30 s,

BMI 42.73 kg/m²)

Function-career

Problem at work. I develop back pain on prolonged sitting and during marching

(Male in his 30 s, BMI 45.60 kg/m²)

Theme 3: Appearance

A small percentage of patients identified the theme 'appearance' (12.9%) as their reason to lose weight. Female patients mentioned this theme more as compared to male. The frequency across the age groups was highest within the early adolescent age group, followed by young adult and middle-aged adults. The older adults were the least to mention appearance as their motivator to lose weight. They commonly wanted to lose weight to gain physical attractiveness while one patient wanted to return to her pre-obese looks, which she perceived to be prettier.

"I want to look more beautiful without excess fat" (Female in her 30 s, BMI 44.38 kg/m²)

"Want to look pretty once again" (Female in her 50 s, BMI 52.62 kg/m²)

Theme 4: Perceived Stigma

Compared to females (2.8%), more male patients (3.5%) stated perceived stigma as their reason to lose weight. This was also observed more in the early adolescents' group, followed by the young adult. None of the older adults above the age of 55 years old mentioned perceived stigma as their reason to lose weight.

"I am embarrassed to face my friends" (Male adolescence, BMI 39.24 kg/m²)

"Other people's opinion towards me" (Female adolescence, BMI 41.88 kg/m²)

"The people around me laugh at me, up to a point that I even cried" (Female in her 30 s, BMI 54.90 kg/m²)

"Outsiders look at me like I am an alien and I become their mocking material (Female in her 30 s, BMI 60.18 kg/m²)

"Friends shun me" (Male in his 30 s, BMI 43.55 kg/m²)

Table 2. Number of Responses to the Themes and Categories on Main Reasons to Lose Weight

Theme	Sub-category	Frequency (n) of responses N = 225	Percentage (%)
Health		189	84
	To be healthy (for self) and practice healthy living	131	58.2
	Existing diseases and health risks	49	21.8
	Health reward	19	8.4
	Psychological health reward (self-confidence)	8	3.6
	Age (Ageing)	5	2.2
Function		58	25.8
	Function-self	44	19.5
	Function- family and social	11	4.9
	Function-religion	7	3.1
	Function-career	4	1.78
Appearance		29	12.9
	To look and feel good	27	12
	To attain pre-obese look	2	0.9
Perceived Stigma		7	3.1
	Social pressure	3	1.3
	Embarrassment	4	1.8

Discussion

This study utilized open-ended questions to identify reasons as to why a patient with obesity who enrolled in a hospital-based WMP wanted to lose weight. The four emerging themes are health, function, appearance and perceived stigma.

This study found 'health' as the patients' motivator to lose weight, evident across both genders and all age groups. This finding is similar to a few other studies that looked into the reasons and motivations to losing weight (11–13). The respondents to those studies overwhelmingly ranked 'health' as their most common reason as well.

Notably, improving one's general health is driven by wanting to be healthy for one's self, to practice healthy living and concerns over existing diseases and health risks. Our findings are also similar to the main motivations described by patients among Canadian adults who were trying to lose weight. The study found that common reasons to lose weight include reducing risk for heart disease (11), a similar concern shared by our patients. The goal of weight reduction to reduce the risk of cardiovascular disease needs to be understood by both, patients, and health care providers. A weight reduction of 5% is needed among obese or overweight adults for a significant reduction in all cardiovascular risks (29). These findings may have practical implications for health care providers in addressing concerns and setting up appropriate weight loss goals in achieving the desired reduction in cardiovascular risks.

Other important reasons to lose weight were described as health rewards and psychological rewards. Health rewards include the intention to improve health for the sake of fertility. Women who wanted to improve fertility were young females, at the age when the impact of obesity on fertility is at its greatest (30) and weight loss before assisted reproductive treatment can significantly improve pregnancy outcome (31). However, motivation to lose weight for improved fertility contradicts that of Sacha et al, which found that overweight and obese women presented with infertility at an academic fertility centre were unwilling to delay their fertility treatment while attempting to lose weight (32). The difference in urgency for fertility treatment could be explained by the difference in the BMI categories between the study patients. Our study had more severely obese patients with a higher mean of BMI, explaining why fertility was considered highest in priority as a reason to lose weight as compared to patients in overweight category.

Two patients highlighted gaining health rewards to proceed with organ transplantation. A similar motivation was observed in a study among severely obese patients who needed to qualify for renal transplant (33). This motivation is evident by the high stake procedure in which the health reward for weight loss is the prolonging of life itself. While patients in our study did not specify details on the type of organ transplantation, studies have shown that pre-transplantation weight loss among obese patients can improve recovery outcome and survival (34,

35). This finding suggests that patients, who are planning for a time-sensitive medical treatment, they must maintain a high motivation to lose weight and would need an intensive level of support to achieve their optimum weight within a crucial time limit.

With regards to psychological reward, some patients expressed their reason was the desire to increase their level of self-esteem and self-confidence. Other studies share this finding with patients of varying ages (13, 36) suggesting that self-confidence is a common motivator for weight loss across all age groups. Successful weight loss, in turn, can increase self-confidence (37). Their need for increased self-confidence could infer that the presence of psychological support to supplement the need for psychological well-being would be an added advantage in WMP.

For the theme 'function', it was inferred by both male and female patients equally. The inference was observed among those within the young adults and middle-aged adults groups. The subcategory of "to maintain function for self" was mentioned the most. This is not surprising as the presence of medical conditions is prevalent among obese adults, which can impair functional capacity and reduce the quality of life (38, 39). It is endearing to discover that female patients related more to the subcategory "to maintain function to care for family members" as compared to male. Being responsible to look after family members perhaps could related to the 'sandwich generation' where working women carry the simultaneous task in caring for their elderly parents as well as young children. In a survey conducted among the Malaysian female government employees, it was found that 66.7% of women were caregivers for either elderly parents or their children and 33.3% provided care to elderly parents and children (40). Perhaps, the additional support of a social worker within the WMP team can be introduced to those who require help during the weight-loss period.

Appearance has been reported as a reason to lose weight (11, 12, 41). Improving appearance was the third theme cited and is more common among the early adolescent age group and female patients. This finding is similar to other studies (11, 12, 13) and a study among high school pupils in German which identified appearance associated with social pressure to be prevalent among adolescents of the age 10 to 16 years old and girls were found to be more affected than the boys (42). In contrast, older adults were the least to infer appearance as their motivator to lose weight. With increasing age, people tend to value health more than appearance (11). Comparable to a study conducted by O'Brien et al, subjects with a mean age of 40-year old and BMI of 34 kg/m² (12) were less concerned about their appearance as a motivating reason to lose weight.

The theme "perceived stigma" emerged among a small percentage of the patients but was particularly obvious among the early adolescent patients of less than 18 years as compared to the other age groups. A slightly higher percentage of male patients quoted perceived stigma as their reason to lose weight as compared to females. Obesity is a known stigmatizing condition and is associated with psychological problems (43, 44). The idea of stigma being a motivator to lose weight is debatable. Perceived stigma seemed to serve as both a motivator and barrier to weight loss. Our study shared a similar finding to a qualitative study, which found stigmatization as a motivator to lose weight among obese patients (45).

In contrast, other pieces of evidence have found contradictory findings suggesting weight-based stigmatization resulted in unhealthy eating habits and weight gain. For example, in adults, studies have found that instead of losing weight, weight-based stigmatization resulted in binge-eating behaviour (46, 47) while among adolescents, it resulted in binge-eating and unhealthy weight control behaviours (48, 49). A study in the UK looking at the visual representation of obesity in the media found that subjects described as obese tended to represent the higher BMI obese range (50). Since most of the patients in this study are in the severe BMI range of obesity, they truly fit into society's description of 'obesity'. Contrary to the findings by these studies, instead of responding to perceived stigma negatively, our patients have cited perceived stigmatization as one of the main reasons as to why they want to lose weight.

There have been suggestions to stigmatize obesity in the effort to encourage people to lose weight and using weight stigma as a public health tool (51–53). Stigma based campaigns have been successful in dealing with other health issues such as smoking but there is little evidence to show that stigmatizing obesity promotes weight loss. As discussed, studies have found that stigmatizing obesity can result in a high degree of psychological stress (54) which in turn promote unwanted coping responses by eating more food and refusing to lose weight and consequently, could lead to more weight gain (55, 56). Therefore, it seems unethical to use stigma weight campaign, which potentially can exert a negative impact on obese subjects in their weight loss journey.

The strength of this study is that it provided data from a sample that has not been commonly studied. The sample represents patients attending hospital-based, multidisciplinary team WMP in Malaysia. Majority of the patients were morbidly obese with BMI of more than 40 kg/m². However, this also serves as a limitation since it is a hospital-based setting with mainly morbidly obese subjects. Therefore, the results cannot be generalized to other overweight and obese population.

Additionally, the limitations include that the survey question was an open-ended self-administered question and are therefore, no further clarifications with probing was able to be conducted to capture the exact reasons identified by patients. The use of the question "What is the main factor why you want to lose your weight" may limit patients' responses, especially when they have more than one main reason. However, many patients responded with several reasons to lose weight. Some of the patients may have more than one main reason to lose weight and

were not captured by this survey. Therefore, future follow-up study with in-depth interviews is recommended to examine the underlying ideas, assumptions, and conceptualizations related to the reasons to lose weight within this population.

Conclusions

This study highlighted a variety of reasons as to why morbidly obese patients enrolled in a hospital-based WMP wanted to lose weight. Concerns about the impact of weight on health, physical, social and obligatory function, appearance and perceived stigma were the main reasons expressed. A deeper understanding of the reasons motivating patients with morbid obesity to lose weight in Malaysia will help provide the sustenance for the targeted professionals to craft their decisions for interventions to support the patients' complex health, social, and psychological needs. Supportive team members engaging with the patients' motivations, may help reduce the burden of obesity and its complications at both individual and public levels.

References

1. France EF, Wyke S, Gunn JM, Mair FS, Mclean G, Mercer SW. Multimorbidity in primary care: a systematic review of prospective cohort studies. *Br J Gen Pract.* 2012;62: e297-307. DOI: 10.3399/bjgp12X636146.
2. Yach D, Stuckler D, Brownell KD. Epidemiologic and economic consequences of the global epidemics of obesity and diabetes. *Nat Med.* 2016;12(1):62-6.
3. Gill T. Epidemiology and health impact of obesity: an Asia Pacific perspective. *Asia Pac J Clin Nutr.* 2006;15(Suppl.):3-14.
4. Lemstra M, Bird Y, Nwankwo C, Rogers M, Moraros J. Weight loss intervention adherence and factors promoting adherence: a meta-analysis. *Patient Prefer Adherence.* 2016;10:1547-59. doi: 10.2147/PPA.S103649.
5. Sutcliffe K, Richardson M, Rees R, Burchett H, Melendez-Torres G.J, Stansfield C et al. What are the critical features of successful Tier 2 weight management programmes for adults? A systematic review to identify the programme characteristics, and combinations of characteristics, that are associated with successful weight loss [Internet]. 2016 [Cited 2019 May 9]. Available from: <https://eppi.ioe.ac.uk/CMS/Portals/0/PDF%20reviews%20and%20summaries/Weight%20management%202016%20Sutcliffe%20report.pdf>.
6. Johnson WD, Brashear MM, Gupta AK, Rood JC, Ryan DH. Incremental weight loss improves cardiometabolic risk in extremely obese adults. *Am J Med.* 2011;124(10):931-8. DOI: 10.1016/j.amjmed.2011.04.033.
7. Dandanell S, Skovborg C, Præst CB, Kristensen KB, Nielsen MG, Lionett S et al. Maintaining a clinical weight loss after intensive lifestyle intervention is the key to cardiometabolic health. *Obes Res Clin Pract.* 2017;11(4): 489-98. DOI: 10.1016/j.orcp.2016.09.009.
8. Ogden J, Karim L, Choudry A, Brown K. Understanding successful behaviour change: the role of intentions, attitudes to the target and motivations and the example of diet. *Health Educ Res.* 2007;22(3):397-5.
9. NHLBI Obesity Education Initiative. The Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults, 2000. [Cited 2019 May 9]. Available from: https://www.nhlbi.nih.gov/files/docs/guidelines/prctgd_c.pdf.
10. Aronne LJ, Wadden T, Isoldi KK, Woodworth KA. When prevention fails: obesity treatment strategies. *Am J Med.* 2009;122(4 Suppl. 1):S24-32. DOI: 10.1016/j.amjmed.2009.01.005.
11. Green KL, Cameron R, Polivy J, Cooper K, Liu L, Leiter L at al. Weight dissatisfaction and weight loss attempts among Canadian adults. *CMAJ.* 1997;157(Suppl. 1):S17-25.
12. O'Brien K, Venn BJ, Perry T, Green TJ, Aitken W, Bradshaw A, Thomson R. Reasons for wanting to lose weight: different strokes for different folks. *Eat Behav.* 2007;8(1):132-5.
13. Holley TJ, Collins CE, Morgan PJ, Callister R. Weight expectations, motivations for weight change and perceived factors influencing weight management in young Australian women: a cross-sectional study. *Public Health Nutr.* 2016;19(2):275–86. DOI: 10.1017/S1368980015000993.
14. Ayodele Emmanuel Oyebanji, Musa Dankyau, Osesienemo Asiribo-Sallau. Social determinants of motivation to lose weight among literate obese patients: A qualitative study. *J Behav Health.* 2016;5(3): 123-128. DOI:10.5455/jbh.20160306071015
15. Dhurandhar NV, Kyle T, Stevenin, B, Tomaszewski K & The ACTION Steering Group. Predictors of weight loss outcomes in obesity care: results of the national ACTION study. *BMC Public Health.* 2019;1422 (2019). DOI: 10.1186/s12889-019-7669-1
16. Beaulac J, Sandre D. Critical review of bariatric surgery, medically supervised diets, and behavioural interventions for weight management in adults. *Perspect Public Health.* 2017;137(3):162-72. DOI: 10.1177/1757913916653425.
17. Natvik E, Raheim M, Andersen JR, Moltu C. Living a successful weight loss after severe obesity. *Int J Qual Stud Health Well-being.* 2018;13(1):1487762. DOI: 10.1080/17482631.2018.1487762.
18. Lewis S, Thomas SL, Blood RW, Hyde J, Castle DJ, Komesaroff PA. Do Health Beliefs and Behaviors Differ According to Severity of Obesity? A Qualitative Study of Australian Adults. *Int J Environ Res Public Health.* 2010;7(2):443-59. DOI: 10.3390/ijerph7020443.

19. Fildes A, Charlton J, Rudisill C, Littlejohns P, Prevost AT, Gulliford MC. Probability of an Obese Person Attaining Normal Body Weight: Cohort Study Using Electronic Health Records. *Am J Public Health*. 2015;105(9):e54-e59. DOI:10.2105/AJPH.2015.302773.
20. Jackson KM, Trochim WMK. Concept Mapping as an Alternative. Approach for the Analysis of Open-Ended Survey Responses. *Organ Res Methods*. 2002;5(4):307-36. DOI.org/10.1177/109442802237114.
21. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3:77-101.
22. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res*. 2005;15(9):1277-88.
23. Krippendorff. K. *Content analysis: An introduction to its methodology*, United States of America: Sage Publications, Inc; 2004.
24. Marks DF, Yardley L. Content and thematic analysis. In: *Research methods for clinical and health psychology*, Great Britain: SAGE Publication Ltd; 2004.
25. Palmeira AL, Teixeira PJ, Branco TL, Martins SS, Minderico CS, Barataet JT al. Predicting short-term weight loss using four leading health behavior change theories. *Int J Behav Nutr Phys Act*. 2007;4(1):14. DOI:10.1186/1479-5868-4-14
26. Smith Anderson-Bill E, Winett RA, Wojcik JR. Social cognitive determinants of nutrition and physical activity among web-health users enrolling in an online intervention: The influence of social support, self-efficacy, outcome expectations, and self-regulation. *J Med Internet Res*. 2011;13(1). DOI:10.2196/jmir.1551
27. Teixeira PJ, Silva MN, Mata J, Palmeira AL, Markland D. Motivation, self-determination, and long-term weight control. *Int J Behav Nutr Phys Act*. 2012;9(1):22. DOI:10.1186/1479-5868-9-22
28. Petry NM. A comparison of young, middle-aged, and older adult treatment-seeking pathological gamblers. *Gerontological*. 2002;42(1):92-9.
29. Brown JD, Buscemi J, Milsom V, Malcolm R, O'Neil PM. Effects on cardiovascular risk factors of weight losses limited to 5-10. *Transl Behav Med*. 2016;6(3):339-46. DOI: 10.1007/s13142-015-0353-9.
30. Jungheim ES, Travieso JL, Hopeman MM. Weighing the impact of obesity on female reproductive function and fertility. *Nutr Rev*. 2013;71(Suppl. 1):S3-8. DOI: 10.1111/nure.12056.
31. Sim KA, Partridge SR, Sainsbury A. Does weight loss in overweight or obese women improve fertility treatment outcomes? A systematic review. *Obes Rev*. 2014;15(10): 839-50. DOI: 10.1111/obr.12217.
32. Sacha CR, Page CM, Goldman RH, Ginsburg ES, Zerawho CA. Are women with obesity and infertility willing to attempt weight loss prior to fertility treatment? *Obes Res Clin Pract*. 2018;12(1):125-128. DOI: 10.1016/j.orcp.2017.11.004.
33. Ouayogode MH. Effectiveness of weight loss intervention in highly-motivated people. *Econ Hum Biol*. 2016;23:263–282. DOI: 10.1016/j.ehb.2016.10.003.
34. Chandrashekar S, Keller CA, Kremers WK, Peters SG, Hathcock MA, Kennedy CC. Weight loss prior to lung transplantation is associated with improved survival. *J Heart Lung Transplant*. 2015;34(5):651-7. DOI:10.1016/j.healun.2014.11.018.
35. Lafranca JA, IJermans JN, Betjes MG, Dor FJ. Body mass index and outcome in renal transplant recipients: a systematic review and meta-analysis. *BMC Med*. 2015;13:111. DOI:10.1186/s12916-015-0340-5.
36. Stubbs J, Hillier S, Pallister C, Avery A, McConnon A, Lavin J. Changes in self-esteem in participants associated with weight loss and maintenance of commercial weight management programme. *Obes Control Ther*. 2015;2(1):1-5. DOI: <http://dx.doi.org/10.15226/2374-8354/2/1/00115>
37. Blaine BE, Rodman J, Newman JM. Weight loss treatment and psychological well-being: a review and meta-analysis. *J Health Psychol*. 2007;12(1):66-82.
38. Arranz LI, Rafecas M, Alegre C. Effects of obesity on function and quality of life in chronic pain conditions. *Curr Rheumatol Rep*. 2014;16(1):390. DOI: 10.1007/s11926-013-0390-7.
39. Stefanovics EA, Potenza MN, Pietrzak RH. The physical and mental health burden of obesity in U.S. veterans: Results from the National Health and Resilience in Veterans Study. *J Psychiatr Res*. 2018;103: 112-119. DOI: 10.1016/j.jpsychires.2018.05.016.
40. Aazami S, Shamsuddin K, Akmal S. Assessment of Work–Family Conflict Among Women of the Sandwich Generation. *J Adult Dev*. 2018;25(2):135–140.
41. Reas DL, Masheb RM, Grilo CM. Appearance vs. health reasons for seeking treatment among obese patients with binge eating disorder. *Obes Res*. 2004;12(5):758-60.
42. Helfert S, Warschburger P. The face of appearance-related social pressure: gender, age and body mass variations in peer and parental pressure during adolescence. *Child Adolesc Psychiatry Ment Health*. 2013;7(1):16. DOI:10.1186/1753-2000-7-16.
43. Sobal J, Stunkard AJ. Socioeconomic status and obesity: a review of the literature. *Psychol Bull*. 1989;105(2):260-75.
44. Williams GC, Grow VM, Freedman ZR, Ryan RM, Deci EL. Motivational predictors of weight loss and weight-loss maintenance. *J Pers Soc Psychol*. 1996;70(1):115-6.

45. Oyebanji AE, Dankyau M, Asiribo-Sallau O. Social determinants of motivation to lose weight among literate obese patients: A qualitative study. *J Behav Health*. 2016;5(3):123-8.
46. Annis NM, Cash TF, Hrabosky JI. Body image and psychosocial differences among stable average weight, currently overweight, and formerly overweight women: the role of stigmatizing experiences. *Body Image*. 2004;1(2):155–67.
47. Friedman KE, Ashmore JA, Applegate KL. Recent experiences of weight-based stigmatization in a weight loss surgery population: psychological and behavioral correlates. *Obesity (Silver Spring)*. 2008;16(Suppl. 2):S69–S74. DOI: 10.1038/oby.2008.457.
48. Libbey HP, Story MT, Neumark-Sztainer DR, Boutelle KN. Teasing, disordered eating behaviors, and psychological morbidities among overweight adolescents. *Obesity (Silver Spring)*. 2008;16(Suppl. 2):S24–S29. DOI: 10.1038/oby.2008.455.
49. Neumark-Sztainer D, Falkner N, Story M, Perry C, Hannan PJ, Mulert S. Weight-teasing among adolescents: correlations with weight status and disordered eating behaviors. *Int J Obes Relat Metab Disord*. 2002;26(1):123–31.
50. Patterson C, Hilton S. Normalisation and Stigmatisation of Obesity in UK Newspapers: a Visual Content Analysis. *Open Obes J* . 2013;5:82-91. DOI:10.2174/1876823720131001011.
51. Bayer R. Stigma and the ethics of public health: not can we but should we. *Soc Sci Med*. 2008;67(3):463-72. DOI: 10.1016/j.socscimed.2008.03.017.
52. Callahan D. Children, stigma, and obesity. *JAMA Pediatr*. 2013;167(9):791-2. DOI: 10.1001/jamapediatrics.2013.2814.
53. Heinberg LJ, Thompson JK, Matzon JL. Body image dissatisfaction as a motivator for healthy lifestyle change: Is some distress beneficial? In Striegel-Moore RH, Smolak L. (eds.) *Eating disorders: Innovative directions in research and practice*, Washington, DC, US: American Psychological Association; 2007.
54. Muennig P. The body politic: the relationship between stigma and obesity-associated disease. *BMC Public Health*. 2008;8:128–38. DOI: 10.1186/1471-2458-8-128.
55. Hunger JM, Major B, Blodorn A, Miller CT. Weighed down by stigma: How weight-based social identity threat contributes to weight gain and poor health. *Soc Personal Psychol Compass*. 2015;9(6):255-68. DOI: 10.1111/spc3.12172.
56. Major B, Hunger JM, Bunyan DP, Miler CT. The ironic effects of weight stigma. *J Exp Soc Psychol*. 2014;51:74-80.

Figures



Figure 1

Themes for reasons to lose weight.