# ORIGINAL ARTICLE

# 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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## ABSTRACT

**Introduction:** Addressing motivation to lose weight among morbidly obese patients increases successful weight management outcomes. We aimed to understand the motivations and reasons why morbidly obese patients attending hospital-based weight management programmes wanted to lose weight. **Methods:** A qualitative thematic content analysis was used to analyse 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 program run by endocrinologists, dietitians and occupational therapists in two tertiary hospitals in Klang Valley responded to the questionnaire. **Results:** Patients' mean BMI was $45.6 \pm 8.05$ kg/m$^2$. Four themes emerged and they are health, function, appearance and perceived stigma. Health, the most commonly inferred theme (84%), highlighted concerns over obesity complications and concomitant morbidities, which include infertility, impact on surgical procedures as well as general physical and psychological well-being. Patients regard being functional to care for themselves, family members, religious and career needs as the next most crucial theme (25.8%). They relate to the theme appearance (12.9%) by wanting to look and feel beautiful. The theme perceived stigmatization recount the time when 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. Identifying and addressing these unique personal motivations in a focused approach is vital for health care professionals to manage the complexity of the health, social and psychological needs among patients with morbid obesity.

**Keywords:** Weight loss program, Reasons to lose weight, Motivation, Obesity management

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## INTRODUCTION

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, 13). Oyebanji et al. (14) reported several shared motivational reasons for weight loss which 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 reasons for them. The study was conducted among obese patients who had a high readiness to lose weight (majority within the contemplation and preparation stages of change), with obese classes II and III at the general outpatient department at the Bingham University Teaching Hospital. For a weight management programme (WMP) to be effective, greater emphasis on the reasons why patients want to lose weight need to be practiced (10). Understanding a patient's motivational reasons

provides the foundation for better communication between patients and physicians which can lead to better professional decisions for effective tailored weight management assignment (11, 12) and successful weight loss attempt and maintenance (14). 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 belief 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 perspective 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 reasons 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.

## MATERIALS AND 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,

universal sampling was used by inviting 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. Patients recruited in this WMP were in the morbidly obese classification, defined by BMI $\geq$ 40 kg/m$^2$ or those with BMI between 35 and 40 with major weight related comorbidities. (20) 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 (21).

### Analysis
Three researchers analysed demographic data using descriptive frequency and used thematic content analysis for primary data analysis. (22-25). Thematic content analysis was conducted using an iterative manner. Researchers identified keywords from the questionnaire responses and familiarized themselves with the responses to search for emerging patterns. Identified responses were labelled into codes (24). Researchers used Microsoft Excel® to establish coding quotes, categories and themes to ensure effective coding consistency among the fixed pre-determined researchers, to increase the inter-rater reliability. 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 (26-28). 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 (25).

The researchers met several times to reach an agreement on codes, categories and themes, followed by quantification of the categories and themes. All researchers agreed on the codes, categories and themes. Finally, we selected a sample of quotes to represent the important themes best. Non consistencies and overlapping of quotes were addressed by reflecting upon the main objectives of the research and having the same researchers analysing the quotes. All discrepancies were discussed until final agreement was achieved. 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) 944.16 and the National Medical Research Register (NMRR) KKM/NIHSEC/08-0804/P12-826, 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%. The remainder 64 patients did not answer the open-ended questionnaire. Demographic characteristics of the respondents are as in Table I. The findings indicated a diverse group of subjects concerning gender, ethnicity, religion, education level and co-morbidities.

**Table I: Demographic characteristics 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** | | |
| Mean BMI (kg/m²) at baseline | 45.60±8.05 kg/m² | |
| 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 which predispose them to higher cardiovascular risk. 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) (30), 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 II.

**Table II: Number of responses to the themes and categories on the 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 |

### *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%).
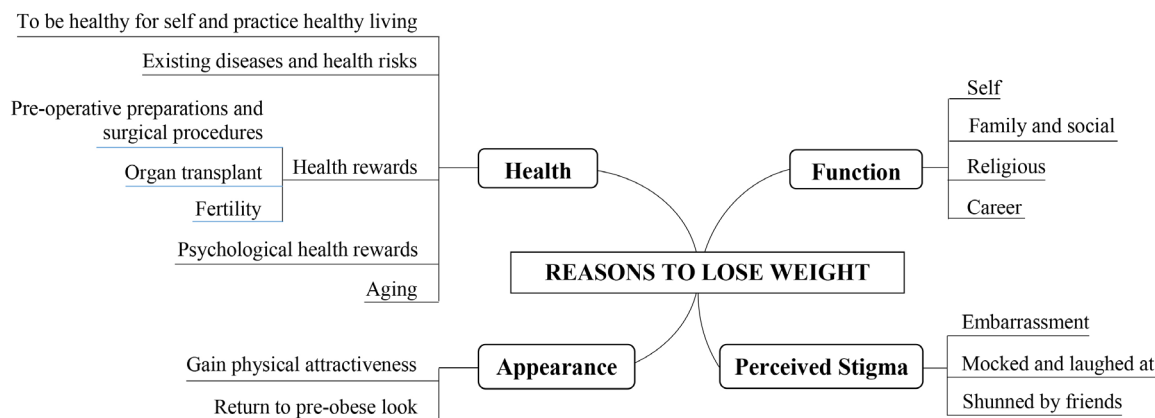
**Figure 1: Reasons to Lose Weight**

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

*"To be healthier and to be able to live a normal life"* (Female in her 40s, BMI 49.4kg/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 30s, BMI 74.11 kg/m²)

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

*"Problem with hypertension and sleep apnoea"* (Female in her 20s, 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.

*"... because I am experiencing polycystic ovarian syndrome (PCOS) and I want to be like normal people, to get the perfect menstrual cycle."* (Female in her 20s, BMI 41.42 kg/m²)

*"... to undergo surgery and to be healthy like other ordinary people"* (Male in his teens, BMI 40.90 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 20s, BMI 43.48 kg/m²)

*"Reduce the risk of getting diseases because of my advancing age"* (Male in his 30s, 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 40s, BMI 49.89 kg/m²)

*"I would be able to buy clothes with ease"* (Female in her 20s, 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 50s, BMI 48.73 kg/m²)

Function-religion
*"Make it easy for me to do my religious obligations in various ways"* (Male in his 30s, BMI 42.73 kg/m²)

Function-career
*"Problem at work. I develop back pain on prolonged sitting and during marching"* (Male in his 30s, 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 than compared to male patients. 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 30s, BMI 44.38 kg/m²)

*"Want to look pretty once again"* (Female in her 50s, 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 adults. None of the older adults above the age of 55 years old mentioned perceived stigma as their reason to lose weight.

*"I am very worried about my appearance. The public sees me as if I am an alien and I become their mocking material."* (Female in her 30s, BMI 59.50 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 30s, BMI 54.90 kg/m²)

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

### 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 diseases 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 (30). 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 (31) and weight loss before assisted reproductive treatment can significantly improve pregnancy outcome (32). 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 (33). The difference in urgency the 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 (34). 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 (35, 36). 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, 37) suggesting that self-confidence is a common motivator for weight loss across all age groups. Successful weight loss, in turn, can increase self-confidence (38). 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 (39, 40). 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 (41). 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, 42). 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 (43). A study conducted by Mroz JE et al, in women subjects with a mean age of 53.9 (±6.88) years old and BMI of 34.84 (±4.21) kg/m$^2$ (12) were concerned about their appearance to others and appearance to self, as a motivating reason to lose weight.

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). 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 (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 (15). 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 (46). 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 (47). 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 (48) which in turn promote unwanted coping responses by eating more food and refusing to lose weight and consequently, could lead to more weight gain (49). 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 40kg/m$^2$. 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.

**CONCLUSION**

This study highlighted four main themes 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.

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