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Laporan Kes / Case Report

Nutritional and Lifestyle Management for Bariatric Surgery Preparation: A Case Report

Pengurusan Pemakanan dan Gaya Hidup bagi Persediaan Pembedahan Bariatrik: Laporan Kes

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ABSTRACT

Obesity is a complex, multifactorial condition associated with numerous comorbidities. Bariatric surgery has emerged as the ultimate surgical solution when non-surgical weight loss methods fail. This case report discusses a 34-year-old Malay male with morbid obesity, referred to a dietitian for weight management before bariatric surgery. The patient weighs at 120.8 kg, with a BMI of 41.8 kg/m², excess body fat of 35.6%, and visceral fat of 30. His latest blood lipid profile showed elevated triglycerides at 3.0 mmol/L, normal LDL-cholesterol level at 2.9 mmol/L, and decreased HDL-cholesterol level at 0.8 mmol/L. Despite prior attempts, the patient was unsuccessful in losing weight and reported exacerbation of the symptoms of gastroesophageal reflux disease (GERD) during the process. He exhibited excessive volume eating, irregular mealtimes, and unhealthy food choices. The nutritional goal was to achieve 10% weight loss prior to bariatric surgery and reduction of GERD symptoms. The patient was prescribed with a 2500kcal/day weight reducing diet and received education on weight-reducing strategies, including portion control, healthier cooking methods, food choices, meal timing, and physical activity. A reduction of 1.8kg was observed over three weeks. Subsequently the follow-up interventions were tailored to the patient's progress.

Keywords: Bariatric surgery, morbid obesity, meal timing, pre- operative weight management

ABSTRAK

Obesiti merupakan satu keadaan kompleks dan multifaktorial yang dikaitkan dengan pelbagai komorbiditi. Pembedahan bariatrik telah muncul sebagai solusi secara pembedahan apabila pelbagai kaedah penurunan berat badan gagal. Laporan kes ini membincangkan tentang seorang lelaki Melayu berusia 34 tahun yang mengalami obesiti morbid dan dirujuk kepada pakar dietetik bagi pengurusan berat badan sebelum menjalani pembedahan bariatrik. Pesakit mempunyai berat badan 120.8kg, dengan BMI 41.8kg/m², peratus lemak badan yang berlebihan sebanyak 35.6%, dan lemak viseral sebanyak 30. Profil lipid darah terkini menunjukkan paras trigliserida yang tinggi iaitu 3.0mmol/L, paras LDL-kolesterol normal pada 2.9mmol/L, dan paras HDL-kolesterol yang rendah pada 0.8mmol/L. Walaupun telah mencuba sebelum ini, pesakit tidak berjaya menurunkan berat badan dan melaporkan simptom penyakit refluks gastroesofagus (GERD) semakin teruk semasa proses tersebut. Beliau menunjukkan corak pengambilan makanan dalam jumlah berlebihan, waktu makan yang tidak teratur, serta pilihan makanan yang tidak sihat. Matlamat pemakanan adalah untuk mencapai penurunan berat badan sebanyak 10% sebelum pembedahan bariatrik dan mengurangkan simptom GERD. Pesakit telah diberikan diet pengurangan berat badan sebanyak 2500 kcal/hari dan menerima pendidikan mengenai strategi penurunan berat badan, termasuk kawalan saiz hidangan, kaedah memasak dan pemilihan makanan yang lebih sihat, penetapan waktu makan, dan aktiviti fizikal. Penurunan berat badan sebanyak 1.8kg telah diperhatikan dalam tempoh tiga minggu. Seterusnya, intervensi susulan disesuaikan berdasarkan kemajuan pesakit

Kata Kunci: Pembedahan bariatrik, obesiti morbid, waktu makan, pengurusan berat badan pra-pembedahan

INTRODUCTION

Obesity is widely recognized as a significant public health issue, affecting populations on both national and global levels. It is a chronic and complex disease characterized by excessive fat deposition that negatively impacts overall health. As stated by the Ministry of Health Malaysia (2023b), obesity is associated with numerous comorbidities, including gastrointestinal conditions (e.g., Metabolic Associated Fatty Liver Disease, Gastroesophageal Reflux Disease, and hernias), metabolic disorders (e.g., Type 2 Diabetes Mellitus and gout), cardiovascular diseases (e.g., hypertension, atherosclerosis, dyslipidemia, and heart failure), neurological complications (e.g., stroke), pulmonary conditions (e.g., obstructive sleep apnea), and even certain cancers. When obesity reaches more severe levels, it is referred to as morbid obesity, a condition that significantly increases the risk of developing additional serious health problems. In Malaysia, the prevalence of overweight and obesity has steadily risen over the years. According to the National Health and Morbidity Survey (NHMS) (2024), the proportion of overweight and obese adults increased from 44.5% in 2011 to 54.4% in 2023. Similarly, abdominal obesity rose from 45.4% in 2011 to 54.5% in 2023, highlighting the escalating nature of the issue.

The latest Clinical Practice Guidelines Management of Obesity provides diagnostic criteria tailored to the Asian population, as the World Health Organization (WHO) body mass index (BMI) cut-off points do not accurately reflect Asian-specific risks. Asians generally have higher body fat percentages at similar BMI cut-off points compared to Caucasians, with comorbidity risks beginning at lower BMI. Overweight is defined as a BMI of 23 kg/m² or higher, while obesity is further classified as follows: Obese I (27.5–32.4 kg/m²), Obese II (32.5–37.4 kg/m²), and Obese III (≥37.5 kg/m²) (Ministry of Health Malaysia, 2023b). Obesity is a multifactorial disease influenced by genetic, behavioral and environmental factors (WHO 2021). One significant factor is the obesogenic environment, characterized by the availability of calorie-dense, unhealthy foods, social norms promoting large portion sizes, and limited access to affordable, healthy food options. Structural factors, such as busy work schedules, hinder regular exercise and healthy eating. Besides, chrono-nutrition disruptions, including irregular meal timing and late-night eating, along with genetic predispositions, also plays a role in appetite and energy regulation. (Spiegel et al. 2004; Stenvers et al. 2018).

Management of obesity includes lifestyle modifications (dietary and exercise), pharmacologic therapy and bariatric surgery. Bariatric surgery has emerged as one of the most effective therapies for severe obesity, particularly in cases where conventional weight loss methods have failed. It helps reduce obesity-related comorbidities and mortality (Sjöström, 2013). The indications for bariatric surgery are shown in Table 1. Bariatric procedures have been considered to function as restrictive, malabsorptive and a combination of both. Restrictive procedures in which the stomach capacity is reduced, promoting early satiety and limiting calorie intake. Examples include Gastric banding and sleeve gastrectomy. Malabsorptive procedures focus on reducing nutrient absorption by shortening the absorptive surface of the small intestine. Combination procedures such as Biliopancreatic diversion/duodenal switch (BPD/DS), Roux-en-Y gastric bypass and Mini gastric bypass (MBG) or one anastomosis gastric bypass (ABG), incorporate both restrictive and malabsorptive components. Additionally, a non-operative restrictive procedure, the intragastric balloon (IGB), involves placing a temporary balloon in the stomach to reduce its volume, promoting satiety and limiting food intake. Pre-operative weight loss, targeting a 10% weight loss prior to surgery, is recommended to improve the operative and postoperative outcomes as it helps to decrease liver size, reduce visceral fat, and lower the risk of surgical complications (Ministry of Health Malaysia, 2023b).

CASE PRESENTATION

This is a new case involving a 34-year-old Malay male patient, diagnosed with morbid obesity and underlying comorbidities, including hypertension (HTN), and gastroesophageal reflux disease (GERD). However, he is currently not on any medications. Based on the STOP-Bang questionnaire, the patient scored a 6, indicating High risk (moderate to severe) for Obstructive Sleep Apnea (OSA). The STOP-BANG questionnaire is the gold-standard clinical screening tool for Obstructive Sleep Apnea (OSA) (Chung et al. 2008). The patient is a candidate for gastric bypass surgery, with the procedure scheduled for confirmation in February 2025. His social history is notable for his employment as a Navy maritime crew member, which involves three days of duty-related travel per week. He resides with his wife, an office worker, and their three children. Regarding health behaviors, the patient denies alcohol consumption but is an active smoker with a significant tobacco history, consuming 10 cigarettes daily since age 13. He has no prior surgical or hospitalization history. Significant family history includes maternal type 2 diabetes and paternal chronic kidney disease.

Upon visiting to the diet clinic, he weighed at 120.8 kg, with a height of 170 cm, and a BMI of 41.8 kg/m², which is classified as obesity class III. The patient's body fat percentage was measured at 35.6%, which significantly exceeds the obesity threshold for males (≥25%) as defined by the Jackson & Pollock (1985) standards. Additionally, the patient's visceral fat was measured at 30 using Bioelectrical Impedance Analysis (BIA). According to the thresholds established by the Japan Society for the Study of Obesity (JASSO) (2002), this level significantly exceeds the established healthy reference range of 0.5–10, classifying the patient in the 'Very High' risk category for metabolic disease. Which also indicates a high volume of intra-abdominal adiposity, which is a known predictor of surgical complexity in bariatric procedures due to potential hepatomegaly.

His ideal body weight (IBW) based on BMI at 18.5 to 24.9 kg/m² was 53.5 to 72kg. According to the patient's weight history, his lowest weight was 55kg when he was at the age of 21. He reported consuming protein powder without exercising to gain weight, finishing two cans in total. Following this, his appetite increased, and his weight progressively rose to a peak of 137 kg last year. The patient, who was eager to reduce weight, started a strict ketogenic diet on his own after reading about it online. He consumed only two eggs, butter and black coffee for 2 main meals daily while incorporating 40 minutes of brisk walking. After one month, he experienced a total weight loss of 10 kg. However, he discontinued the diet after developing symptoms of GERD, including heartburn and belching.

His latest fasting serum lipid profile (FSL) results are shown in Table 2. The total cholesterol was at 5.1 mmol/L, triglycerides at 3.0 mmol/L, LDL-cholesterol at 2.9 mmol/L, and HDL-cholesterol at 0.8 mmol/L. The elevated triglyceride levels may be attributed to excessive calorie intake from carbohydrates and fat, while the low HDL-cholesterol levels could be associated with low physical activity and smoking habits.

In terms of clinical findings, the patient reported experiencing GERD symptoms, including stomach bloating, especially when he did not adhere to regular mealtimes, as he often ate beyond mealtimes during outstations. However, the patient was not on any medication to treat this condition. Moreover, he noted occasional heartburn during walking, which ultimately led to him to discontinue brisk walking as part of his routine, which results in low physical activity, especially when he is off duty from work.

The patient mostly bought food from outside. He claimed that his appetite increased over the past month. He reported that his usual dietary intake differed from his intake during outstation assignments (three times per week), where he consumed less food and had irregular mealtimes due to a busy schedule. During outstation, the patient claimed to primarily consume biscuits, bread, and noodles. A dietary assessment of his usual intake on non-outstation days was conducted for a better understanding of his usual dietary patterns. The complete usual dietary intake is detailed in Table 3.

The estimated intake was approximately 3335kcal with macronutrient distribution consisting of 47% carbohydrates, 11% protein, and 42% fat. This eating pattern indicated a regular intake of calorie-rich foods that are high in fat, mainly saturated fat, while being low in fiber from fruits and vegetables. The patient also reported regularly requesting extra portions of rice, leading to meal sizes of 4 to 7.5 exchanges of carbohydrates. He preferred chicken and eggs as his primary protein sources, typically opting for chicken breast with skin and two scoops of coconut milk-based gravy. Additionally, he regularly ordered sugary drinks such as teh tarik or iced tea in every meal. Regarding dietary habits, the patient tended to have late dinners and heavy suppers, often claiming the inability to control his appetite and a tendency to snack after main meals. Patient also reported he usually stays up late and only sleeps around 2-3 am.

Hence, the first nutrition diagnosis for this case was, excessive energy intake related to frequent consumption of large portion sizes, high-fat foods, and sugary beverages as evidenced by BMI of 41.8 kg/m² (Class III obesity), body fat 35.6%, visceral fat 30, diet history of large meals, frequent snacking on calorie-dense foods, and minimal intake of fiber-rich foods. The second nutrition diagnosis was physical inactivity related to a sedentary lifestyle and limited engagement in structured physical activity as evidenced by patient's self-report of minimal movement, late sleep patterns (2–3 a.m.), and excessive screen time contributing to weight gain and metabolic risk.

NUTRITIONAL INTERVENTIONS

NUTRITION PRESCRIPTION

The main management goal for this patient is to achieve at least 10% weight loss before bariatric surgery and to alleviate GERD symptoms. The estimated energy requirement (EER) was calculated using the Mifflin St. Jeor Equation (1990). An activity factor of 1.2 was applied, considering the patient's sedentary lifestyle, resulting in 2526 kcal. To achieve a weight reduction of 0.5–1 kg per week, a gradual energy reduction of 500 kcal was deducted from the estimated energy intake (EEI). Consider that the patient's current energy intake was 3335kcal/day, the gradual reduction in energy intake was also emphasized, starting from 2800 kcal to 2500kcal within 2 weeks. A 2000kcal, will be prescribed during the next follow-up.

TABLE 1 Indications for bariatric surgery

Morbid obesity without any comorbidities	Bariatric surgery should be considered for the treatment of obesity in suitable patients with BMI ≥37.5 kg/m^2 who fulfil the selection criteria
Morbid obesity with metabolic syndrome	The surgical approach may be considered as a non-primary alternative to treat obesity in suitable patients with BMI ≥32.5 kg/m^2 with metabolic syndrome or CV risk following inadequate weight loss by virtue of medical therapy and lifestyle modifications
Low BMI with or without comorbidities	Any surgery for metabolic syndrome or obesity related comorbidity in patients with a BMI <32.5kg/m2 should not be a routine clinical practice and should be strictly performed only under clinical study protocol with informed consent from the patient and prior approval from an ethics committee
Age restriction	Bariatric surgery is recommended for patients between the ages of 18 and 65 years
Special circumstances	Upon consultation with a physician, paediatrician, orthopaedic surgeon, clinical psychologist, or a surgeon, bariatric surgery may be performed in morbidly obese adolescent patients provided they have attained the physiological bone maturity consistent with Tanner stage 4

Source: Clinical Practice Guidelines Management of Obesity (2nd Edition) 2023.

TABLE 2 Fasting serum lipid profile (FSL)

Parameter	Result	Reference range
Total cholesterol	5.0	< 5.2 mmol/L
LDL- cholesterol	4.5	< 3.0 mmol/L
HDL- cholesterol	0.8	> 1.2 mmol/L
Triglyceride	3.8	< 1.7 mmol/L

Source: Clinical Practice Guidelines Management of Dyslipidemia (6th Edition) 202

TABLE 3 Dietary intake

Meal Occasion	**Food & Beverage Item**	**Estimated Portion / Exchange**	**Frequency**
Breakfast (9:30am)	Nasi Lemak	2 cups	3–4 times/week
	Fried Chicken (with skin)	1 piece (approx. ½ breast)	3–4 times/week
	Fried Egg	1 piece	3–4 times/week
	Teh Tarik (Sweetened)	1 cup (250ml)	3–4 times/week
	Sweet Kuih-Muih	3 pieces	Once/week
Lunch (2:00pm)	White Rice	2 ½ medium bowls	Daily
	Chicken (assorted)	1 piece (2 exchanges)	Daily
	Coconut Milk Gravy (Santan)	2 scoops	Daily
	Fried Egg	1 piece	Daily
	Iced Tea (Sweetened)	1 cup (250ml)	3–4 times/week

Afternoon Tea (5:00–6:00pm)	Fish Crackers (Keropok)	4–5 pieces	Daily*
Dinner (9:00–11:00pm)	Fried Rice	2 ½ bowls	Daily
	Fried Chicken (with skin)	1 piece (approx. ½ breast)	Daily
	Fried Egg	1 piece	Daily
	Teh Tarik (Sweetened)	1 cup (250ml)	Daily
Supper (after 11:00pm)	Roti Canai Curry	2 pieces ½ small bowl	2–3 times/week
	Teh Tarik (Sweetened)	1 cup (250ml)	2–3 times/week

The calorie intake will be further reduced to 1500kcal, followed by 1200 kcal, and finally reaching around 800 kcal, in line with a very low-calorie diet (VLCD) for at least 2 weeks before the bariatric surgery.

The macronutrient distribution was as follows: 55% carbohydrates, 15% protein, and 30% fat, with 7-10% of the total fat from saturated fat, less than 1% from trans fats, and a daily intake of less than 300 mg of cholesterol and less than 2000 mg of sodium. These recommendations align with the latest Clinical Practice Guidelines for Dyslipidemia (Ministry of Health Malaysia, 2023a).

DIETARY ADVICE

The weight-reducing diet and a healthy balanced diet were prescribed for this patient. The importance of pre-operative weight loss was thoroughly explained. The main reasons for pre-operative weight loss were to reduce the risk of surgical complications and promote better post-operative weight maintenance.

To address the issue of large portion sizes, the patient was encouraged to reduce the portion size of rice to one medium bowl or three scoops per meal. Additionally, he was advised not to request extra portions and to limit gravy intake to one scoop per meal. To help the patient manage portion sizes effectively, the use of the healthy plate model was recommended as a visual guide to prevent overeating. Besides, healthier cooking methods, such as grilling, boiling, steaming, and preparing soup-based dishes, were emphasized to reduce calorie intake. The patient was suggested to switch from roti canai to one piece of thosai or chapati, as these options contain less oil. The patient was also encouraged to replace sugary drinks, like teh tarik, with healthier alternatives, such as plain water or plain tea. Healthier snack options were recommended, such as one serving of fruit or three pieces of plain biscuits, which would satisfy hunger without contributing to excess calories. It is crucial to remind the patient not to indulge in unquantified snacks or eat directly from containers, as this can lead to overeating and loss of portion control.

BEHAVIORAL STRATEGIES

Given that the patient finds it challenging to control his appetite, the importance of a proper eating sequence was emphasized, starting with protein, followed by fibre, and then carbohydrates. This sequence helps control hunger. Furthermore, the patient was encouraged to reduce his carbohydrate intake, as excessive carbohydrates will cause an insulin surge, which may contribute to increased hunger and overeating. Increasing fiber intake to three servings of vegetables per day was also suggested to help enhance satiety and support weight management. The patient was encouraged to start with preferred vegetables, such as spinach, to make the transition less hard. To assist with appetite control and reduce the likelihood of overeating, the patient was advised to drink some water before meals. Moreover, the patient was advised on the importance of not consuming main meals after 8 pm, as eating late can interfere with the body's circadian rhythm and digestion.

MANAGING GERD SYMPTOMS

Nutritional interventions for the management of GERD symptoms focused on the elimination of dietary triggers, specifically high-fat and spicy foods. The patient was instructed to adopt a small, frequent meal pattern to prevent excessive gastric distension. Additionally, the importance of meal consistency was emphasized, with specific advice to avoid skipping meals and to refrain from late-night consumption to prevent nocturnal reflux.

PHYSICAL ACTIVITY PLAN

The patient was encouraged to increase physical activity starting with low to moderate intensity physical activity. Patient was advised to start with low impact aerobic exercise such as static cycling or home workouts for 10 minutes per session, five days a week. Over time, the goal would gradually increase to at least 30 minutes per session, five days a week, if tolerated, to achieve 150 minutes of moderate intensity physical activity per week.

MONITORING AND EVALUATION

Monitoring focused on anthropometric trends (weight change) and behavioural adherence, specifically regarding meal timing, portion regulation, and the transition toward low-fat/low-sugar cooking modalities. Furthermore, the patient's symptomatic response to dietary modifications was assessed, with particular attention to the frequency of gastroesophageal reflux (GERD) symptoms, including pyrosis (heartburn) and belching, and evaluation of physical activity levels. A follow-up assessment was conducted three weeks post-initial consultation via telecommunication (WhatsApp) to evaluate clinical progress.

The patient reported a weight reduction to 119kg, showing a loss of 1.8kg (1.5%) within the three weeks, which indicates a significant weight reduction. However, the BMI remained in the Obese Class III range at 41.2kg/m². The patient made several positive changes, including reducing the rice portion to four scoops and stopping from requesting extra portions. He also made efforts to reduce his consumption of coconut milk-based dishes to four times per week, although he mentioned that finding alternative, healthier gravies was challenging. In addition, the patient started including one scoop of vegetables, such as spinach, brinjal, or ulam (raw vegetable) during lunch and dinner. However, he reported inconsistent vegetable intake during the morning meal, citing limited accessibility. The patient also mentioned that while he had tried to reduce the frequency of supper, sometimes his children insisted on going out to eat when they were hungry. However, the patient mentioned that he just started static cycling 1 week ago and was only able to cycle for 15 minutes per session, three times per week, without experiencing any exacerbation of his GERD symptoms.

As part of the nutrition intervention, individualized recommendations were provided based on the patient's expressed concerns. The patient was advised to continue reducing rice portion sizes and, when healthier meal options were unavailable, to substitute with vermicelli soup added with vegetables. To improve fiber intake, the patient was encouraged to prepare salads, cherry tomatoes, or fruits at home as convenient, ready-to-eat options. He was also counseled to select vegetables prepared with minimal oil to avoid excess caloric intake. Regarding the late-night eating habit, the patient was advised to refrain from ordering food when accompanying his children to reduce exposure to temptation. Positive reinforcement was provided for the patient's current efforts, and he was encouraged to further increase physical activity, with emphasis that regular exercise contributes to improved stamina and overall health. Given these positive lifestyle modifications and the patient's demonstrated motivation, continued improvement is anticipated at the subsequent clinic follow-up.

DISCUSSION

According to CPG Obesity (2023), obesity is a complex condition influenced by various factors, including genetic, environmental, behavioral, and physiological aspects. It can be explained through the concept of energy balance: when there is a long-term positive energy balance, meaning that energy intake exceeds energy expenditure, the excess energy is stored as fat in the adipose tissue, leading to weight gain over time. Chronic obesity triggers inflammation throughout the body, affecting multiple physiological systems and contributing to serious comorbidities, a condition known as morbid obesity. The additional abdominal fat, increase intro-abdominal pressure, leading to weakened lower esophageal sphincter (LES) function and increased risk of GERD symptoms which are also illustrated in this case (Chang, et al. 2014). In this patient, dietary factors such as large portion sizes, unhealthy food choices, and cooking methods are direct contributors to obesity. However, certain behavioral and lifestyle factors, such as uncontrolled appetite, late-night eating, and late sleep patterns, also play a vital role in driving overeating, which ultimately contributes to excessive weight gain and obesity.

Irregular sleep patterns, particularly staying up late at night, can disrupt the body's circadian rhythm, the internal 24-hour clock that regulates physiological processes. The suprachiasmatic nucleus (SCN), located in the anterior hypothalamus above the optic chiasm, serves as the central pacemaker, coordinating sleep–wake cycles, hormone secretion, appetite, digestion, and body temperature in response to light–dark cues. Peripheral organs also possess local circadian clocks that align with the SCN to optimize metabolic and behavioral functions. Disruption of these rhythms has been linked to adverse health outcomes, including metabolic dysregulation and impaired glucose tolerance (Hastings et al. 2018; Partinen, 2019).

Late-night sleep disrupts the circadian rhythm, affecting metabolic processes. Study by Spiegel et al. (2004) indicates that such disruptions disturb the balance between ghrelin, which stimulates hunger, and leptin, which signals satiety. This imbalance can lead to increased appetite and overeating. In addition, individuals who stay up late often make unhealthy food choices and consume larger portions, which can further perpetuate the cycle of excessive calorie intake and weight gain. Studies proves that circadian rhythm regulates metabolic efficiency, which functions less effectively at night compared to daytime (Stenvers et al. 2018). Studies also suggest that the circadian system coordinates glucose metabolism by managing glucose absorption,

insulin sensitivity in tissues such as muscles, fat, and the liver, and insulin secretion by the pancreas is optimized during the daytime, suggesting that nighttime metabolic functioning is less effective for food intake (Poggiogalle et al. 2018; Zhang et al. 2025). Disruptions or misalignments between the body's internal rhythms and daily behaviors, such as late-night eating or late sleeping schedules, can lead to insulin resistance. During the night, this resistance encourages the storage of calories as fat rather than their use for immediate energy (Stenvers et al. 2018). Overall, disruptions to the circadian rhythm caused by irregular sleep patterns and late-night eating result in dysregulated appetite, reduced calorie expenditure, and increased fat storage, which are major contributors to the development of obesity.

Although bariatric surgery is being offered to this patient, it is essential to provide both pre-operative and post-operative dietary and lifestyle guidance to ensure sustainable weight loss outcomes. Recommendations alone may not be sufficient; it is crucial to emphasize the importance of pre-operative weight loss and explain the rationale behind a gradual calorie reduction approach. Gradual calorie reduction helps prevent overwhelming the patient and provides time for mental preparation for the transition to a very low-calorie diet (VLCD). Sudden restrictions, such as an immediate shift to an 800kcal diet, could cause undue stress if the patient has not been informed of the gradual reduction in food intake. Post-operative dietary patterns should also be thoroughly explained to the patient, allowing them to understand the changes they need to make. A practical strategy during consultations involved comparing the patient's current dietary habits (large portions, high fat, and high sugar) with the post-operative recommendations (small, frequent meals with reduced fat intake and limited refined carbohydrates). Additionally, potential post-operative nutritional complications, such as abdominal distension, vomiting, diarrhea, or dumping syndrome, were addressed if the current eating pattern was maintained. This comparison helps the patient gain a clearer understanding of the necessary improvements while addressing potential complications. By explaining the rationale behind these changes, the patient can better comprehend their importance and feel more motivated to adhere to the recommended adjustments. To sum up, besides dietary adjustments, it is crucial to address mindful eating practices and lifestyle modifications, as these play a significant role in controlling appetite and preventing overeating. This is particularly important since the patient struggles with regulating their appetite and has a habit of late-night eating. Late-night meals are not ideal, as they disrupt the circadian rhythm, as previously mentioned. Furthermore, the choices for these meals are concerning, as they are typically calorie-dense and nutritionally unbalanced.

A critical area for clinical optimization in this case should involve the assessment of the patient's importance, confidence, and readiness regarding weight loss. Given the patient's interest in bariatric surgery, evaluating these psychosocial markers is essential for identifying potential barriers such as emotional instability, surgical misconceptions, or potential non-adherence to perioperative lifestyle protocols. Early intervention based on this assessment ensures the patient is psychologically and behaviorally prepared to achieve optimal long-term outcomes.

CONCLUSION

Dietitian plays a crucial role in assessing a patient's weight history, previous dieting approaches, and current dietary intake to provide practical interventions that support preoperative weight loss in bariatric surgery patients. Addressing lifestyle and behavioral modifications, such as late-night eating and irregular sleep patterns, is essential for tackling other factors contributing to weight gain. Additionally, assessing a patient's readiness, confidence, and motivation for weight loss is vital in identifying barriers and ensuring they are both mentally and physically prepared for surgery. Effective interventions should be engaging and supported by clear explanations to help patients understand and implement dietary changes. Continuous follow-up is essential for monitoring progress, addressing patient concerns, and ensuring steady progression toward weight loss goals, ultimately improving surgical outcomes and long-term weight management.

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