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Advantages of Meal Replacement Therapy in Obesity Management: A Mini Review

Mrs. Annemary K. Thomas

MSc. Clinical Nutrition & Dietetics, Clinical Dietitian, Cloudnine Hospitals, Bangalore, India

ABSTRACT
Obesity is considered as a major challenge among global health which is associated with metabolic disorders, decreased quality of life, and increased impact on healthcare. Meal Replacement Therapy (MRT) have been visible as an optimized dietary approach for weight management because of its ability to provide adequate intake of calories, improved quality of diet, and enhance compliance. This review summarizes present evidences on the clinical advantages of MRT by emphasizing on full and partial meal replacement approaches, improved metabolism, glycaemic control, patient compliance, and modification of lifestyle. Existing studies portrays that partial MRT can cause clinically evidenced weight reduction with better portion control and improved metabolic outcomes in comparison to other conventional calorie-restricted diets. Furthermore, personalized MRT impacts in improved long-term glycaemic control for Type 2 Diabetes (T2D) patients. Although, this benefits in patient education, dietary adherence, and long-term lifestyle modifications, it remains crucial for more sustained results.

1. INTRODUCTION

Obesity develops with increased energy intake that exceeds the energy expenditure, which in turn results in excessive accumulation of adipose tissue and metabolic dysfunction/ disorder. Traditional weight-loss strategies, including low-calorie diets (LCD) and very low-calorie diets (VLCD), which are often challenging in long term management due to hunger sensations, food cravings, and lack of dietary diversity. Therefore, Meal Replacement Therapy (MRT) was introduced as a structured nutritional approach that promotes caloric restriction by replacing one or more meals with nutrient-rich products of foods.

MRT products are crafted to achieve balanced macro and micronutrient requirement while promoting energy deficit. Certain research depicts that MRT can cause greater compliance and consistent energy consumption in comparison to unrestricted LCDs and VLCDs. This shows the importance of this review in summarizing the current evidences based on the advantages of MRT in managing obesity and comorbid metabolic outcomes.

2. ADVANTAGES OF MEAL REPLACEMENT THERAPY

Effective consistent energy consumption

MRT ensures accurate control over portion size which helps the individuals reduce overall intake of calories to simplify calorie counting. Studies highlights that both full and partial meal replacement therapies can substantially reduce body weight. According to a systematic review of randomized controlled trials indicates that MRT have led to significantly more effective weight loss than other conventional diets [1]. A subsequent meta-analysis reported that one to two meals replaced per day results in clinically significant decrease in body weight along with fat mass among Obese and overweight adults [2].

Sustainable weight control

Partial replacement is more sustainable than full MRT of all meals. A scientific study reported that significant improvements in metabolic functioning and body composition is due to partial MRT with moderate energy restriction for several weeks [3]. The structured design of MRT helps in reducing fatigue and encourages long-term participation, often more effective than conventional LCDs.

Beneficial metabolic and glycaemic outcomes

MRT has exhibited positive outcomes in glycaemic control, especially for those with type 2 diabetes. A study observes individualized MRT can help in formulating low-glycaemic index which in turn improves long-term outcomes in controlling diabetes, insulin insensitivity, and cardiometabolic health in patients with poor control over type 2 diabetes [4]. Improved fasting blood glucose levels, lipid profiles, and waist circumference is also documented in several clinical trials [1,5].

Advanced portion control and adequate nutrient intake

Excessive calorie and carbohydrate consumption along with poor nutritional foods contributes as major factors for Overweight and obesity among individuals. MRT raises these concerns by introducing standardized nutrient rich options with controlled portion size that are fortified with good sources of vitamins and minerals. This helps to reduce the micronutrient deficiencies or insufficiencies seen in obesity and calorie restricted diets. Moreover, MRT reduces the access to high calorie foods, in order to reduce binge eating and cravings.

Encourages behavioural and lifestyle changes

Successful weight control needs to adopt a systematic nutritional approach including lifestyle and behavioural changes. MRT streamlines dietary choices which aids healthcare providers to prioritize physical activity, improved sleep pattern, and provide behavioural counselling. Consistent follow-ups and monitoring improves compliance. Certain studies focuses on the requirement of patient education to assure better understanding of the principles of MRT and in preventing recurrence of unhealthy dietary practices [1,3].

Gender-specific results

Recent studies indicate that physiological disparities in gender between male and female can impact the responsiveness to MRT due to differences in hormonal profiles, fat distribution, and metabolic rate which in turn affects the resulting weight-loss [1]. However, subsequent studies are necessary to clarify these variations based on gender.

3. LIMITATIONS AND CONSIDERATIONS

Although it's effective, MRT is unsuitable for every individual. Some patients do not accept the consumption of oral nutritional supplements and might struggle with weariness. Certain other concerns are hunger sensations, dehydration, or inadequate intake of protein due to poor supervision of MRT. Adequate hydration of about 1.5–2 L/day along with micronutrient supplements are necessary for individuals with nutrient deficiencies. Integration of MRT into a holistic health and wellness program is important to prevent relapse.

4. CONCLUSION

Meal Replacement Therapy provides a well-structured, evidence-based dietary approach in managing obesity. It offers consistent calorie restriction, supports metabolic health, improves glycaemic control, and enhance sustainable weight management in conjunction with behavioural changes. Particularly, Partial MRT, has clear indications of supporting its long-term management and clinical advantages. Despite, MRT is not a complete solution, it provides a fundamental for current obesity treatment strategies when personalized and monitored by qualified nutrition professionals.

5. REFERENCES

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