

## Public Health 2020: Optifast meal replacement and its effect on body weight

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Obesity has reached epidemic proportions all around the world and it is alarming because it is affecting populations from different age groups. It is implicated in the development of a variety of chronic diseases like diabetes, hypertension, Cardiovascular diseases and many types of cancer. The objective of this study is to examine the effect of Optifast meal replacement (OF) on body weight and body composition among obese individuals following a period of weight loss and weight maintenance compared to an isocaloric, food based diet (FB). The methods used in this study were as follows: A 12 week randomized, controlled clinical trial included 90 obese adults with a body mass index (BMI) between 30 and 50 kg/m<sup>2</sup> randomly assigned to 1 of 2 weight loss programs. The dietary interventions consisted of Optifast meal replacement for weight loss or a self-selected isocaloric, food based meal plan. Both groups were very well supervised for an average of twice per month in order to make sure that individuals were following strictly the diet program assigned to them. Sometimes they were down and didn't want to go on with the challenge of losing weight, so they were allowed to have one cheating meal in order to keep them on track. With the assistance of specialized dietitian both groups stayed motivated and followed the diet to the end, which helped us to get better results from this study. The results of this study showed as follows: Weight loss was significantly better in the Optifast group (OF) versus the food based group (FB) (12.3% versus 6.9%). There was no difference in satiety observed between the 2 groups during the weight loss phase. The optifast group was full of energy after completing the diet program and showed no frustration towards food when done. After completing this 12-week study, the main conclusion was that the meal replacement diet plan evaluated was an effective strategy for weight loss and thus for improving in a number of health related parameters. Moreover, the meal replacement weight loss program ensured the delivery of all nutrients minerals and vitamins needed so there was no risk of developing any deficiency.

Meal replacements (MR), typically formulated as prepackaged shakes or bars, are another option for reducing energy intake 4, 5. They help promote weight loss by eliminating choices, controlling portions, and providing satiation at lower calorie intakes 6, 7. Total meal replacement (TMR), or the use of MR as the sole source of daily nutrition, has been studied as one option to enhance behavioral weight loss. Several retrospective and prospective clinical trials through the 1990s showed significant initial weight loss with the use of very-low-calorie diets (VLCD), typically providing 400 to 600 kcal/d using TMR. However, the 1998 expert obesity panel convened by the

National Heart, Lung, and Blood Institute did not recommend the use of VLCDs because of concerns that long-term weight losses, especially after cessation of the VLCD, were not significantly different from those achieved with standard low-calorie diets 8. At the time of the systematic review for the 2013 American Heart Association/American College of Cardiology/TOS Obesity Guidelines, there was insufficient high-quality evidence to support more than a limited recommendation for use of these types of dietary strategies 3. While studies reviewed for the 2013 guidelines suggested that short-term TMR weight loss could be larger than that achieved with FB diets, the potential for weight regain after TMR still appeared high 3. The studies of TMR reviewed in the 2013 guidelines, dating from 1998 to 2009, were generally short-term studies, often without follow-up intervention beyond 3 to 6 months of initiation of TMR 3.

This clinical trial compared two behavioral weight-loss strategies, OP versus a modified version of DPP. Participants in the OP treatment arm lost 10.5% of their initial weight by 52 weeks, representing a near doubling of the effect on body weight seen with FB. A larger proportion of participants lost 5%, 10%, or 15% of their body weight with OP, and a greater percentage of people responded with at least 3% weight loss to OP. The OP participants had greater losses of fat mass, and OP was well tolerated and safe. Overall, OP proved to be a more effective treatment than FB.

This multicenter clinical trial using OP demonstrated that a comprehensive behavioral weight-loss intervention with TMR led to greater clinically significant weight loss at 26 and 52 weeks compared with a well-established FB behavioral intervention. It also showed the feasibility of such an intervention for motivated individuals.