

# Weight regain after total meal replacement very low-calorie diet program with and without anti-obesity medications.

Cifuentes L, Galbiati F, Mahmud H, Rometo D.

*Obes Sci Pract.* 2023 Nov 20;10(1):e722.

### Background:

Studies have demonstrated the short-term effectiveness of meal replacements for weight loss, however evidence surrounding maintenance of outcomes beyond 12 months remains a subject of ongoing investigation. Pharmacotherapy has also been a highly effective weight loss strategy, but weight regain after 1 year, especially with GLP-1 RA, remains a challenge for many individuals.

### Objective:

To investigate the impact of adjunctive anti-obesity medication (AOM) use on weight loss and weight regain during and after participation in a comprehensive medically managed lifestyle program encompassing a Very Low-Calorie Diet – Total Meal Replacement (VLCD/TMR) phase.

**Primary endpoint:** Weight loss regain in percentage (WR%) after 18 months from the weight loss achieved at 6-months between adults taking AOMs (+) versus no AOM (–).

**Secondary endpoint:** Total body weight loss percentage (TWL%) at 3, 6, and 18 months of follow-up as well as differences in TWL% and WR% among participants in the AOM group based on the AOM used.

### Methods:

A retrospective analysis of 6 – month and 18 – month weight loss outcomes was conducted in the US between Dec 2014 and Feb 2019, calculating the percentage of lost weight regained at 18 months. A comparison was made between those being treated with AOMs and those not taking AOMs. Subjects included adults with obesity (BMI > 30) enrolled in a medically supervised VLCD/TMR program (OPTIFAST®) who completed the initial 6 months with a 12- month follow-up of weight data. For the first 3 months, the diet consisted of meal replacement products (600 – 900 kcal/day) and raw non -starchy vegetables. Over the following 3 months, plant - based food groups were gradually added, followed by the incorporation of animal protein. The weight maintenance phase consisted of monthly RD visits for 1 year.

### Results:

#### Patient Characteristics:

- 206 adults completed; 68% female, mean (SD) age of 52.39 (13.05) years, body weight of 117.95 (24.06) kg, and a BMI of 41.71 (7.04) kg/m<sup>2</sup>.
- 49% had diabetes, 139 did not take any anti-obesity medications (AOM-), 67 were prescribed AOM (AOM +) at some point during the program

#### Weight Loss (WL):

- When comparing TWL% between the AOM + and AOM - groups, no SS difference was found at 3, 6, or 18 months.
- Mean weight loss was greater at 6 months in the AOM (-) group {not SS}, but greater at 18 months in the AOM (+) group.
- After 18 months, 26% of patients in the AOM + group achieved more than 20% weight loss, compared to only 18% of patients in the AOM- group (p = 0.03)
- TWL%: –14.22% (4.57) after 3 months, –17.87% (7.02) after 6 months, and –12.10% (11.56) after 18 months was observed. This corresponded to a mean difference from baseline of –16.91 kg (p < 0.001) at 3 months, –21.40 kg (p < 0.001) at 6 months, and –14.95 kg (p < 0.001) at 18 months.

#### Weight Regain (WR):

- A WR of 6.32 kg (4.57 to 8.07; p < 0.001) and a WR% of 40.4% (30.22 to 50.61) were observed, with no significant differences between males and females.
- Patients in the AOM (+) group regained less weight compared to the AOM (-) group [WR%: 31.5% vs 52.16%; p = 0.04]
- Liraglutide or Semaglutide users achieved substantial weight loss of –14.49% (3 months) and –18.42% (6 months) but showed a 4.6 kg regain at 18 months to –14.29%.

### Conclusions:

The results of this study show that compared to using a VLCD – TRM program alone, the addition of anti-obesity medications is associated with significantly less weight regain at 18 months. These findings emphasize the importance of using a comprehensive approach to target both the physiology of obesity with pharmacotherapy and implementation of behavior change practices needed to achieve optimal results. Larger randomized controlled trials are needed to evaluate AOMs in combination with long-term diet strategies to minimize weight regain in the weight maintenance phase beyond 18 months.

[Access the study here: Weight regain after total meal replacement very low-calorie diet program with and without anti-obesity medications - PubMed \(nih.gov\)](#)

### Summary prepared by Nestlé Health Science

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NEST-15514-0424