

## **Predictors of Successful Weight Loss Among Patients on Partial Meal Replacement in a Structured Academic Weight Loss Program**

Dr. Elise Crocker, Dr. Najwan Alsulaimi, Dr. David Harris, Dr. Judy Shiau

**Background:** Partial meal replacement (PMR) has been proven to be an integral tool for treating patients with obesity. ROOT is a 6-month weight management program, in an academic-based medical weight management clinic, focused on lifestyle and behavioural changes with monthly 1:1 counselling by physician and dietitian where medical nutrition therapy may include up to 2 meal replacements (MRs) per day and obesity medication (OM) may concurrently be prescribed.

**Methods:** We performed a cohort study among patients enrolled in the ROOT program receiving PMR between January 24<sup>th</sup> 2016 and May 12<sup>th</sup> 2021. The primary outcome is successful weight loss defined as loss of  $\geq 5\%$  from baseline weight. Statistics for predictors of the primary endpoint were conducted.

**Results:** Of 1063 participants in ROOT, 889 (84%) were on PMR of which 630 (71%) had completed at least 4 of 6 sessions. Baseline characteristics of this group include: 72% females, 23% with diabetes, average age 50 and BMI 40. The overall average weight loss for the entire cohort with completed data was 13.2lbs, with 51.9% achieving the primary outcome. By univariate analysis (Table 1), predictors for  $\geq 5\%$  weight loss were: age  $\geq 50$  ( $p=0.03$ ), concurrent OM ( $p=0.039$ ), and full completion of the program ( $p=0.0001$ ). The proportion achieving the primary outcome by completion of 4,5, or 6 sessions were respectively: 25(32%), 138 (49%), 164(61%).

**Conclusions:** Among patients enrolled in a real-world weight management program treated with PMR, predictors of clinically meaningful weight loss were: age, concurrent use of OM and compliance with completion of the program. Multidisciplinary management of patients on PMR is essential.

**Table 1:**

<b>Variable</b>	<b>Proportion ≥ 5% weight loss (n=327)</b>	<b>Proportion &lt;5% weight loss (n=303)</b>	<b>p-value</b>
Age ≥ 50	188 (58%)	148 (49%)	0.0312
Sex(F)	238 (73%)	213 (70%)	0.5361
Diabetes	77 (24%)	68 (22%)	0.7767
Baseline BMI ≥40	136 (42%)	147 (49%)	0.0923
Completed 6 sessions	164 (50%)	104 (34%)	0.0001
Concurrent Use of OM	115 (35%)	83 (27%)	0.0394