

## **DROPOUT DURING COMMERCIAL WEIGHT LOSS: OBSERVATIONAL COHORT STUDY WITH REGISTER LINKAGE**

**Introduction:** Dropout during commercial weight loss is unclear.

**Methods:** Observational data on weight loss and dropout from the commercial weight loss company Itrim (Sweden) were linked with national health registers. The cohort consisted of 8361 consecutively-enrolled participants on a 1-year weight loss program (cost: \$1300/€1000). Weight loss was induced by 6-10 weeks VLCD (n=3773; BMI  $34\pm 5\text{kg/m}^2$ , 80% women; age  $45\pm 12\text{y}$ ) or meal replacements (n=4588; BMI  $30\pm 4\text{kg/m}^2$ , 86% women, age  $50\pm 11\text{y}$ ), followed by a diet and exercise maintenance program. At baseline, 18% were treated for hypertension, 12% for depression, 8% for CVD, 7% for dyslipidemia, 3% for diabetes, 2% for cancer, and 1% for psychosis. Logistic regression was used to identify predictors of dropout at 1 year.

**Results:** In crude analysis, weight change for VLCD (completers) was  $-13.9\pm 8.1\text{kg}$  with 18% dropout. Weight change for meal replacements (completers) was  $-8.8\pm 5.9\text{kg}$  with 23% dropout. In multivariable analysis, use of meal replacements remained associated with dropout compared to VLCD (odds ratio, OR: 1.5). Independent predictors of dropout within the VLCD group were low age  $<40\text{y}$  vs  $\geq 60\text{y}$  (OR: 4.4), low BMI  $<30\text{kg/m}^2$  vs  $\geq 40\text{kg/m}^2$  (OR: 1.6), depression (OR: 1.4), and psychosis (OR: 2.6). Within the meal replacement group, predictors of dropout were low age  $<40\text{y}$  vs  $\geq 60\text{y}$  (OR: 2.6), low BMI  $<30\text{kg/m}^2$  vs  $\geq 40\text{kg/m}^2$  (OR: 2.2), and depression (OR: 1.4). Treatment for CVD, cancer, hypertension, dyslipidemia, and diabetes was not associated with dropout.

**Conclusion:** While dropout was generally low, we noted an increased risk of dropout with low age, low BMI, depression and psychosis.

### **1. Conflict of interest:**

Erik Hemmingsson has received consultancy fees from Itrim. Martin Neovius, Johan Sundström and Claude Marcus are members of Itrim's Scientific Advisory Board.

### **2. Funding:**

Itrim International. The funding source was not involved in the analysis of data, and did not read or comment on any version of the abstract.