The high prevalence of obesity and Metabolic Syndrome (MetS) has led to increased clinical and public health interest in effective weight loss programming. Behavior-based lifestyle programs that utilize technological support and health coaching may improve weight and other chronic disease conditions. However, the costs (both monetary and time) of individualized as well as group-based interventions limits the potential translatability of these interventions.

The purpose of this study was to determine the independent and interactive benefits of an individualized, guided weight loss program (based on health coaching principles) and a PAM on weight loss and clinically relevant health outcomes in obese adults.

Methods

PARTICIPANTS AND TREATMENT GROUPS

Inclusion criteria were: ≥18 years of age, BMI ≥ 30 kg/m², and weight stable (± 10 lbs) for 3 months. Participants were randomized (using a random number generator) to a trained health coach and one of three treatment groups:

1) HC: A guided weight loss program utilizing health coaching.
2) PAM: A supported self-monitoring program based on a commercial physical activity monitor.
3) HC+PAM: A combined program that included both the guided weight loss program and use of PAM

ANTHROPOMETRIC AND CLINICAL MEASURES

Measurements were completed at baseline and 8-weeks and included:
- Height
- Body composition (BIA) – Body density
- Weight
- Blood pressure
- Blood markers
- Waist circumference
- Waist to hip ratio
- WC
- BMI
- Triglycerides
- Glucose
- Cholesterol
- HDL

Blood pressure, triglycerides, glucose, HDL-cholesterol, and waist circumference were used to calculate a continuous MetS score, which reflects the average z-score for the five factors.

STATISTICAL ANALYSES

Group differences in the primary outcome variables (weight and continuous MetS score) were assessed using two-way (Group x Gender) ANOVA. Subsequent ANOVA examined changes in other anthropometric and clinical variables. Effect sizes were calculated (Cohen’s d) to compare the magnitude of changes among the treatment groups and one-way ANOVA evaluated differences in change in MetS score based on tertiles of weight loss.

CONCLUSION

Our results demonstrate that there are several avenues to improving health, not only in terms of weight status, but also in improvements in clinically meaningful risk factors for cardiometabolic health. Further, results suggest that use of a more intensive and personalized health coaching. Further research of longer duration with larger samples is warranted to understand how best to enhance the effective utilization of these commercially-available monitors.

The authors wish to thank Sarah Walsh for her contribution to data collection for this project.