

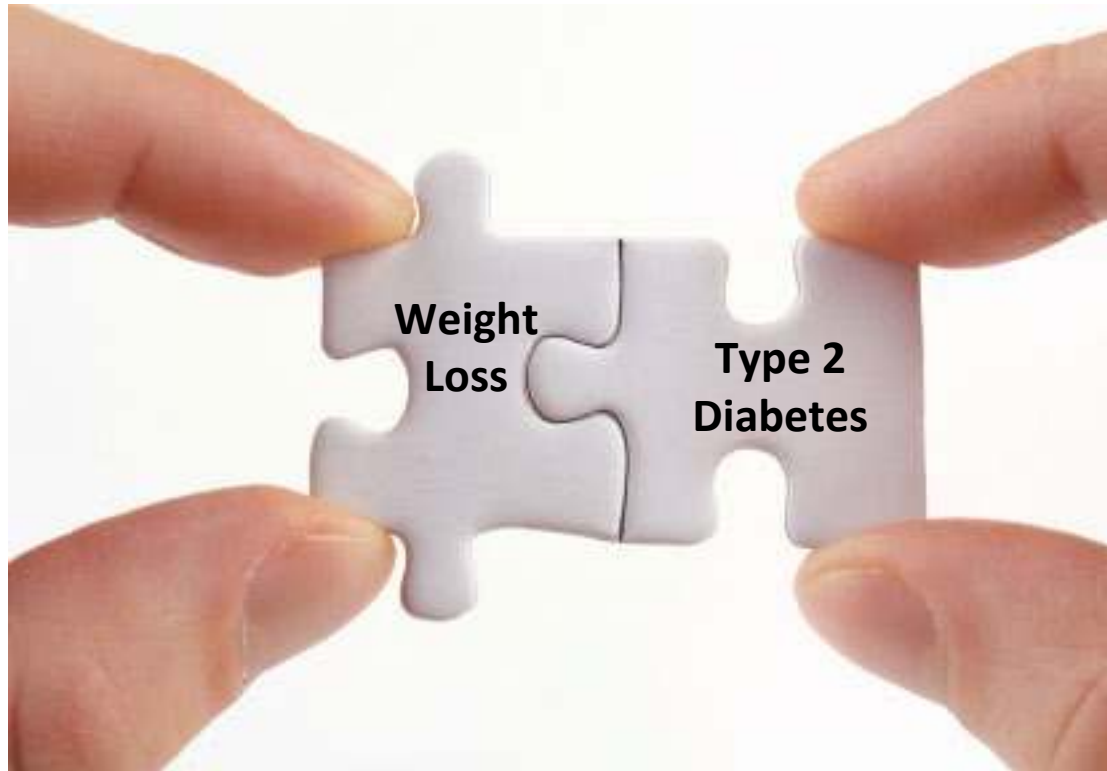
Case Study #6

How can we efficiently help patients
with Diabetes or at Risk of Diabetes with
Weight Loss?

Diabetes or Risk of Diabetes & Weight Loss



**Diabetes
Research
Program**



"No matter how heavy you are, you will significantly lower your blood sugar if you lose some weight"

Cathy Nonas, MS, RD

Spokeswoman for the American Diabetes Association

Professor at Mount Sinai School of Medicine, NY



Clinical Group

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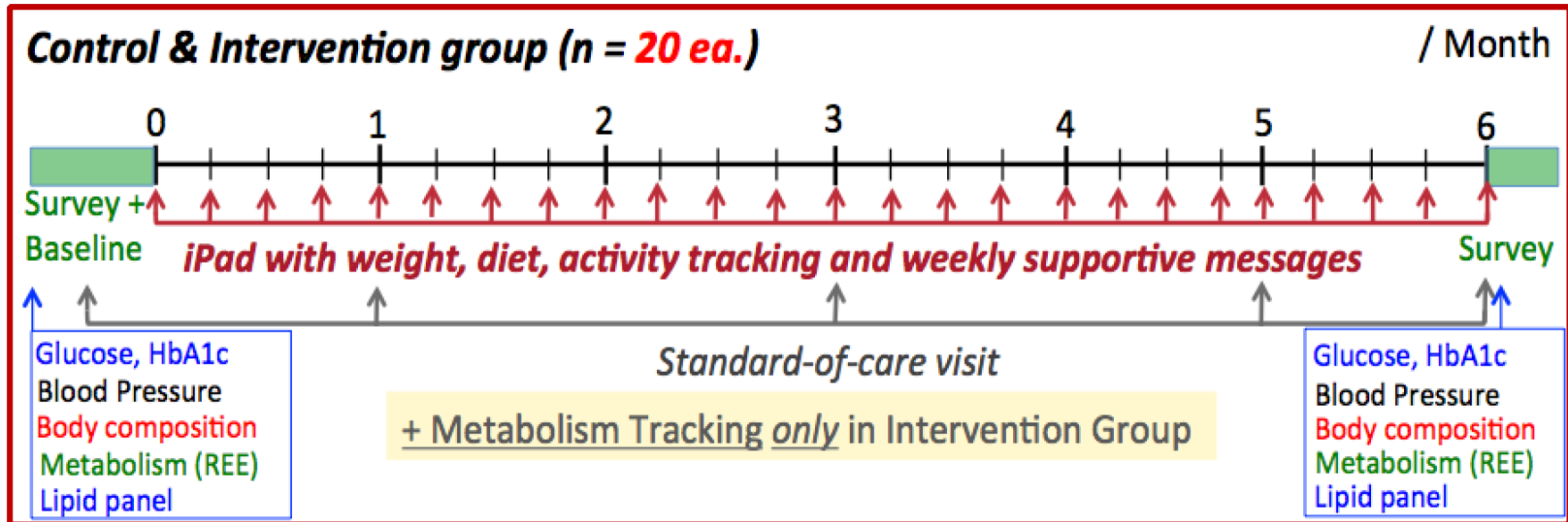
Research Article

Study of the Effect of Mobile Indirect Calorimeter on Weight Management

Abstract

This study investigates the effect of utilizing a personalized resting metabolic rate (RMR) mobile tracker based on indirect calorimetry during a 6-month pilot weight loss intervention. Volunteer subjects were randomized to an intervention group participating in a weight loss program utilizing the mobile tracker (IG; N=19) or a control group (CG; N=20) who participated in the same weight loss program, but without the RMR mobile tracker. All subjects were overweight or obese with either type 2 diabetes mellitus (T2DM) or high risk for T2DM. The subjects measured their body weight, physical activity, and caloric intake for 6 months attempting to meet a specific caloric intake goal. The total energy expenditure (TEE) of the subjects was defined as follows: For the CG, TEE was calculated based on daily physical activity, and resting energy expenditure estimated by the Harris-Benedict predictive equation. For the IG, TEE was calculated based on daily physical activity and measuring weekly resting energy expenditure with the mobile indirect calorimeter. The calorie intake goal for each subject was defined as a deficit of 500 kCal/day with respect to their TEE. Adherence to the recommended calorie intake goal during the 6-month period was evaluated via the entries in a calorie intake counter application. In addition, changes in weight, body composition, and blood metabolic profile after 6 months was compared to baseline measurements. The results indicated that the use of the mobile indirect calorimeter in the IG had positive effects on weight loss rate (89% in the IG vs. 50% in the CG, $p = 0.05$), and a 70% higher adherence to calorie tracking than the CG ($p = 0.03$). Furthermore, the IG showed statistically significant reduction vs. the CG in weight ($p = 0.03$), body mass index ($p = 0.03$) and percent of weight loss ($p = 0.01$), and an increase in HDL cholesterol vs. CG ($p = 0.04$).

Six-month study design



Baseline: initial measurement period; **Surveys:** subjects pre- and post study survey, Metabolism tracker: Breezing

■ Control Group (CG)



My FitnessPal, Striv

Intake = 500-calorie deficit intake based on the Harris Benedict Equation

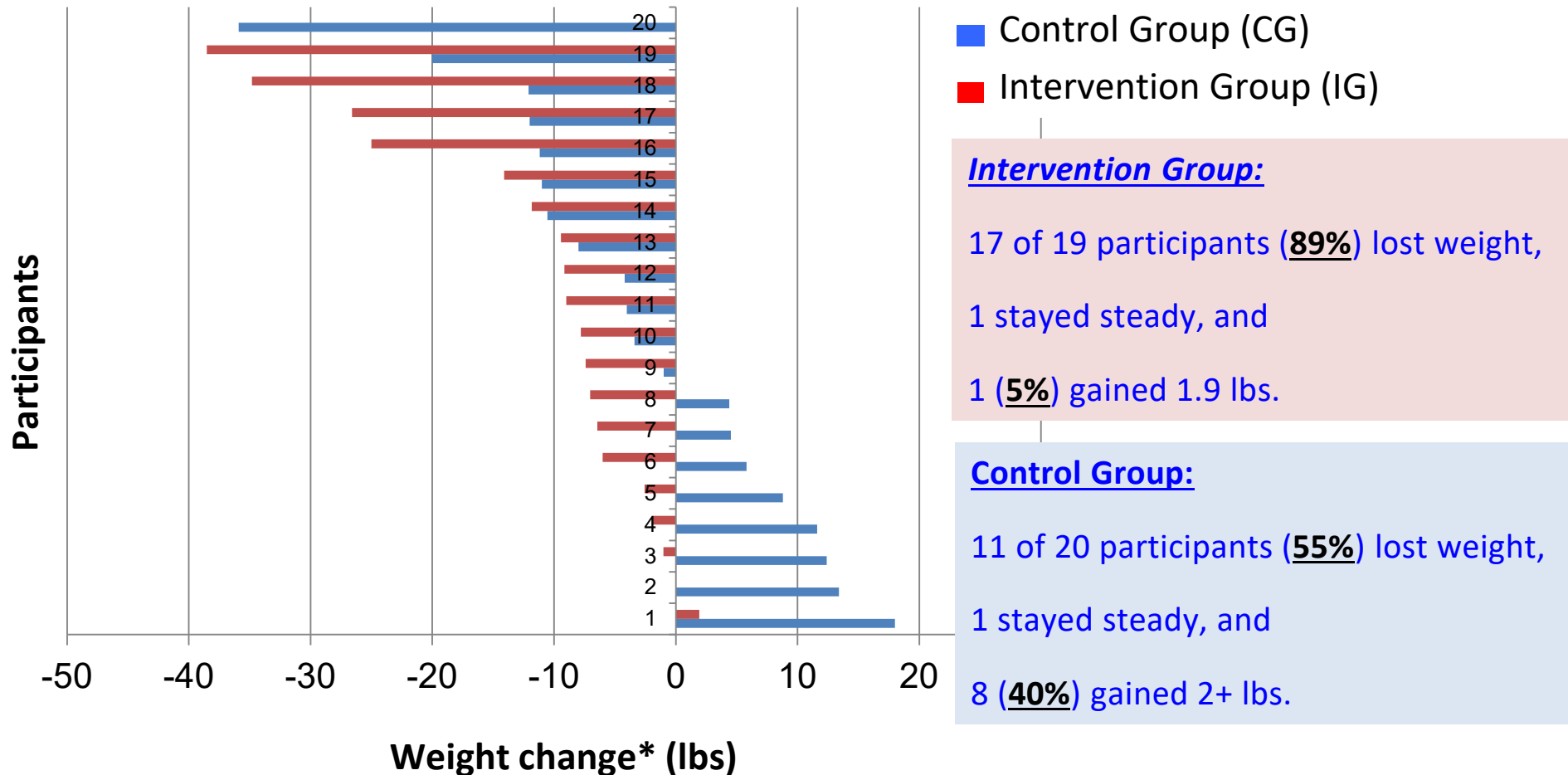
■ Intervention Group (IG)



My FitnessPal, Striv, Breezing

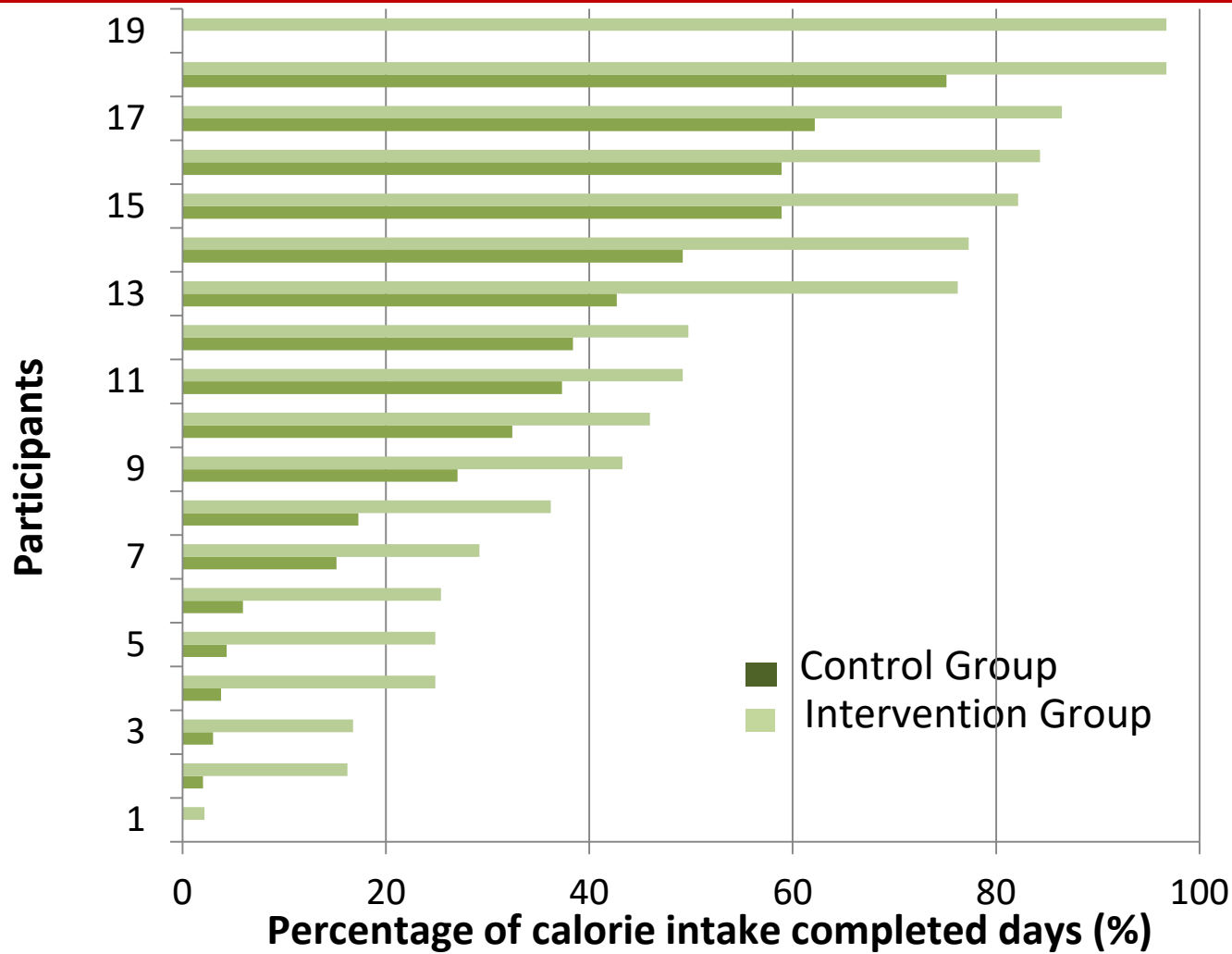
Intake = 500-calorie deficit intake based on Breezing

Weight changes



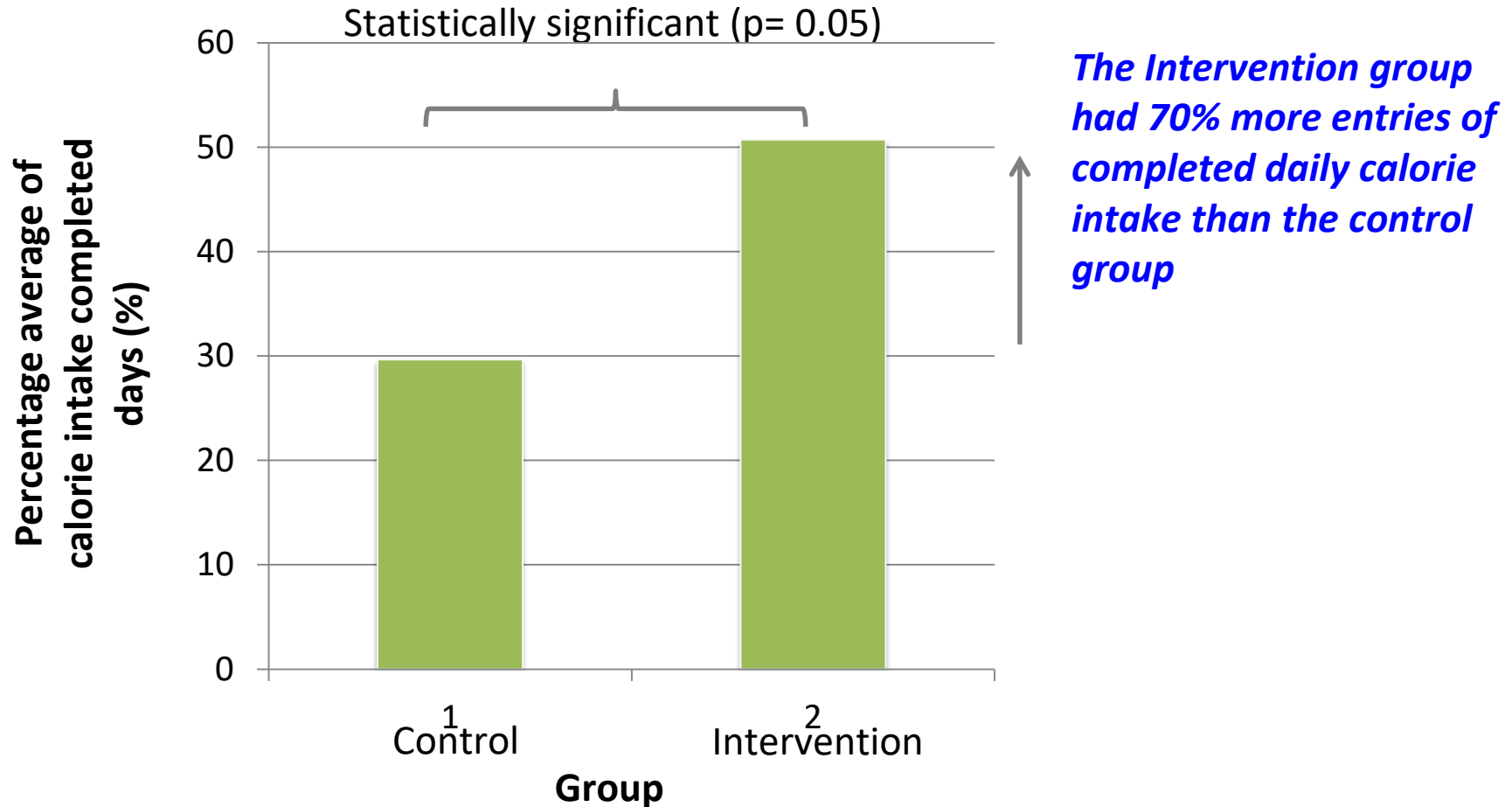
Observation: Weight change is accounted from 1st day the participant use MFP (baseline period) up to 6 months after the study

Calorie Intake Completed Days*



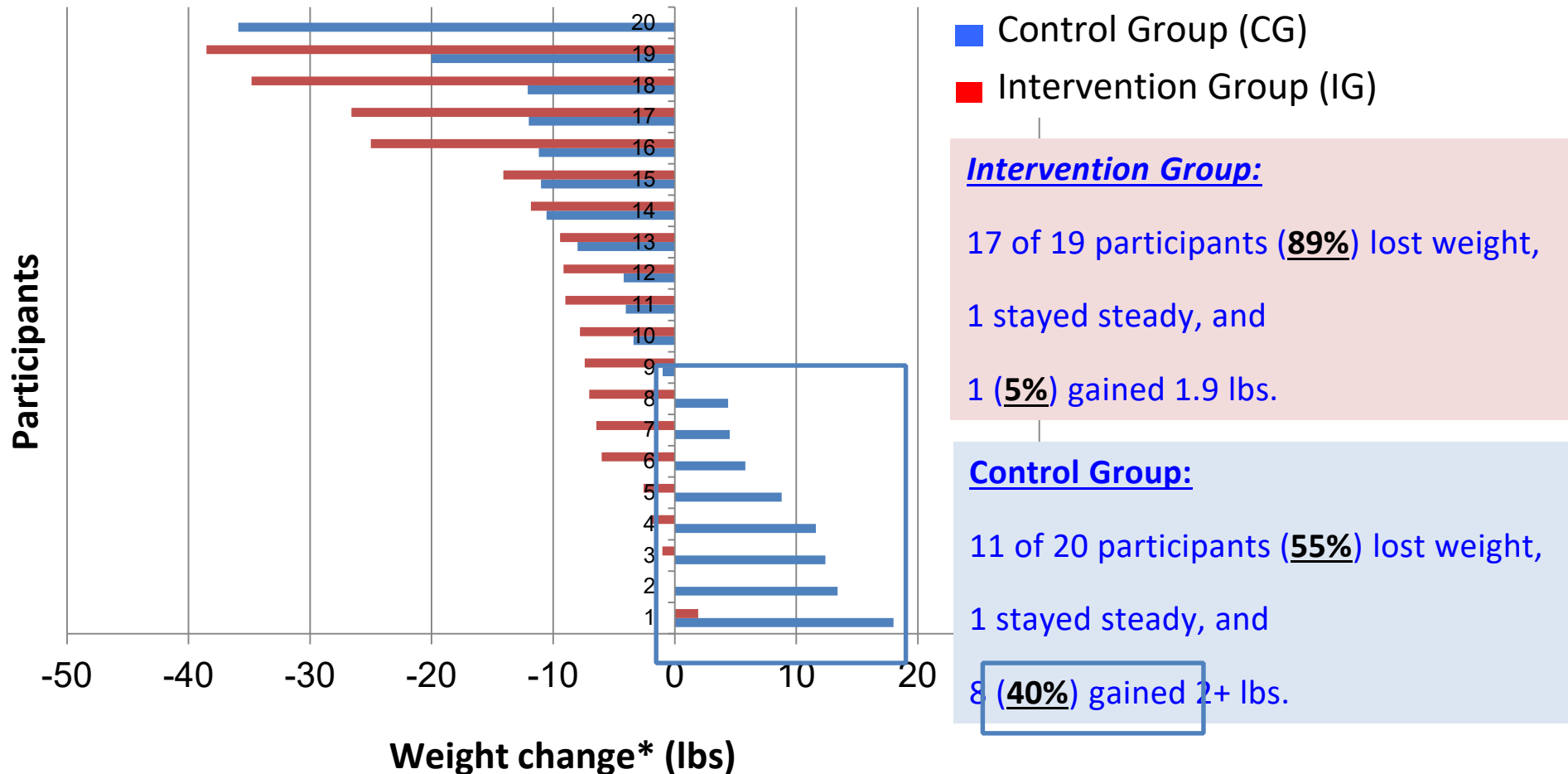
* Completed days represent calorie intake values with equal or 25%+ of recommended calorie intake

Calorie Intake Completed Days*



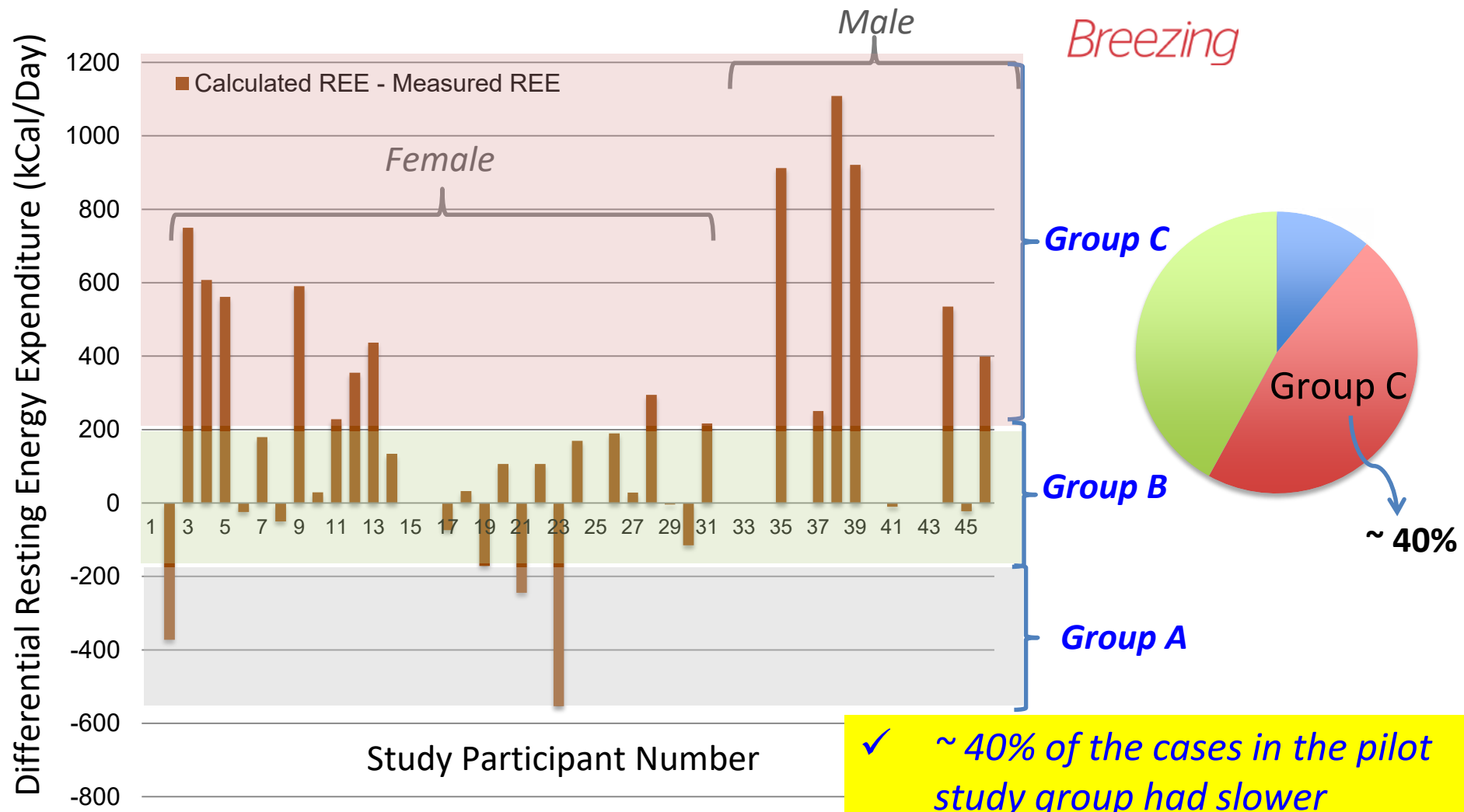
* Completed days represent calorie intake values with equal or 25%+ of recommended calorie intake

Weight changes



Observation: Weight change is accounted from 1st day the participant use MFP (baseline period) up to 6 months after the study

Difference: Calculated REE* – Measured REE

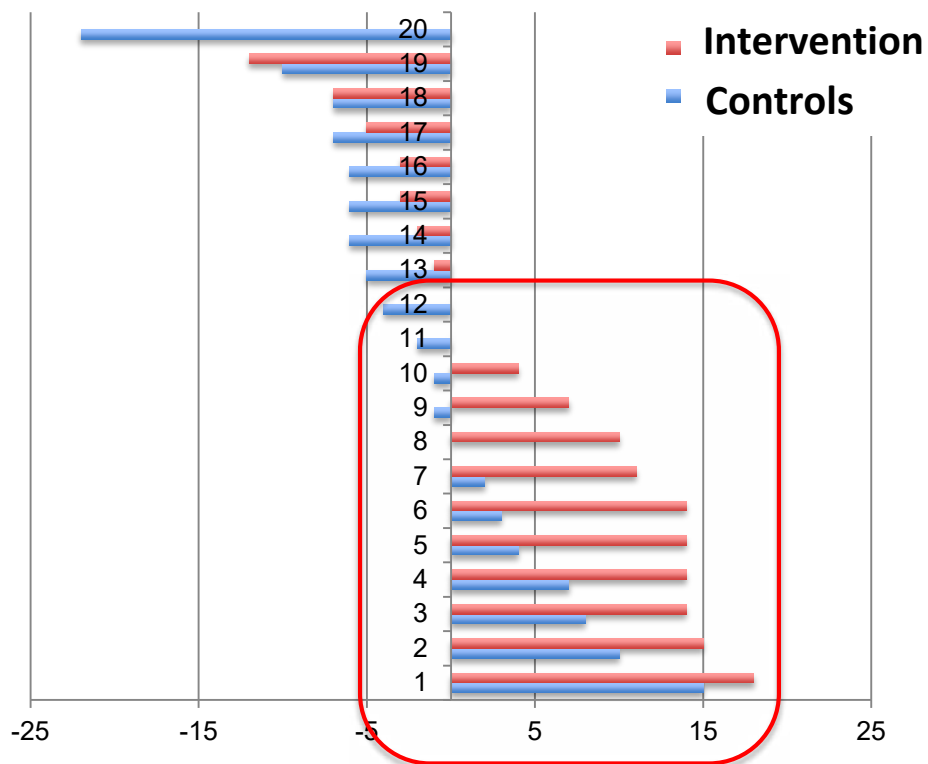


* Predictive Equation (Harris-Benedict)

✓ ~ 40% of the cases in the pilot study group had slower metabolic rates that the predicted from equation

Benefits of weight loss in blood parameters

HDL change



Intervention group had a better outcome for HDL cholesterol (increased HDL cholesterol with a significant difference of $p = 0.037$ with respect to the control group)

Diastolic Blood Pressure

Intervention group had a better outcome for reduction of diastolic blood pressure (a decrease with a significant difference of $p = 0.07$ with respect to the control group)

Summary of facts from the study

1. How does knowing Correct Calories Burned relate to Weight Loss?

89% efficiency of weight loss (IG) vs. **55%** efficiency of weight loss (CG)

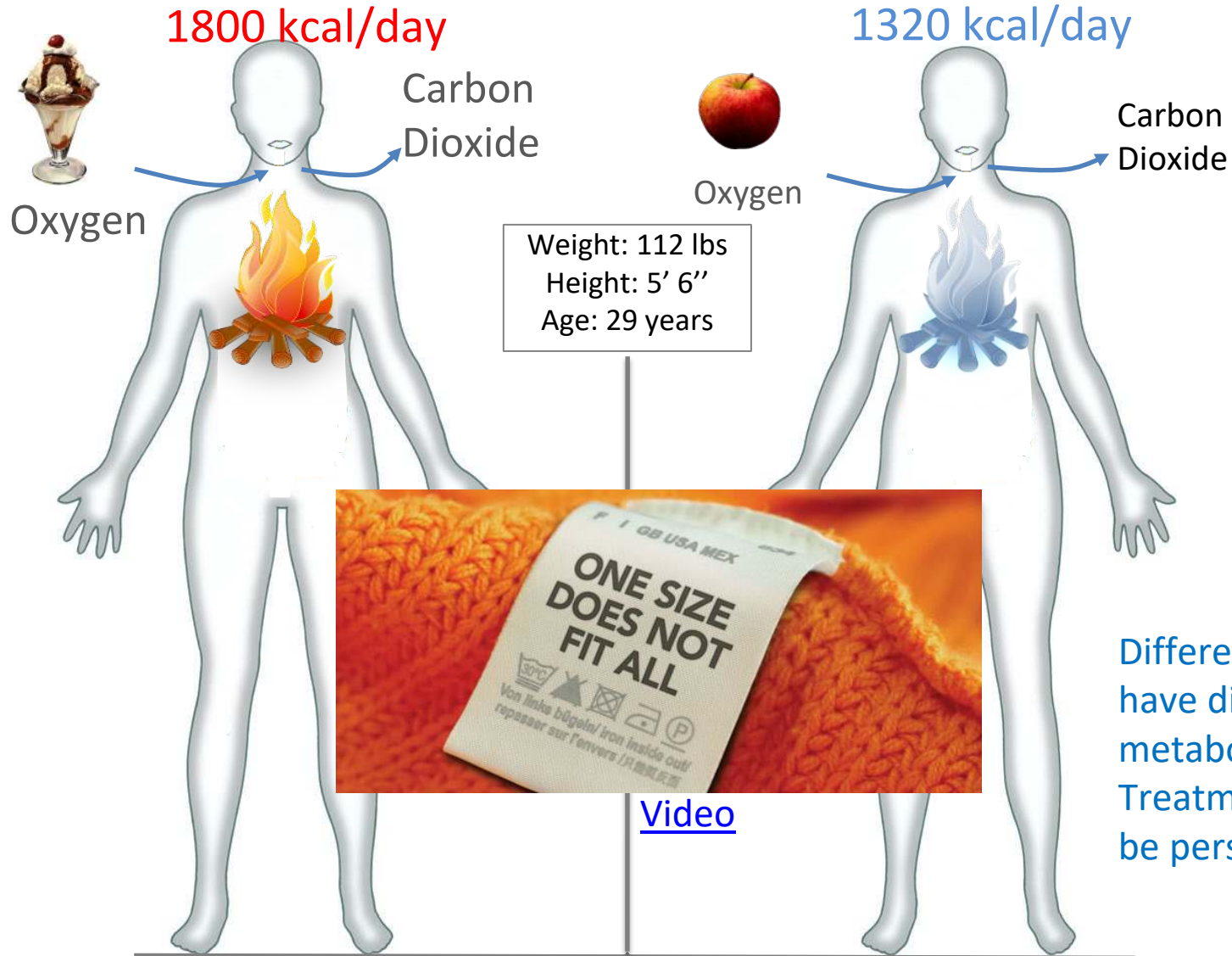
5% of weight gain (IG) vs. **40%** of weight gain (CG)

2. Breezing users had:

MORE ADHERENCE!

- i) Effectively lost more weight
- ii) Inputted 70% more calorie intake records into the Calorie Counter App
- iii) Better HDL cholesterol and Diastolic Blood Pressure parameter outcomes
- iv) Improved Hb1Ac levels due to a weight loss

Take home message from the study



[Video](#)

Different people have different metabolisms, and Treatments need to be personalized

Thank YOU !

Questions to:

info@brezing.com