

# Increase in Tomato Consumption May Be Achieved without Affecting Consumption Level of Other Fruits and Vegetables

L. Cooper, V. Nguyen, D. Kawiecki, S. Pardo, T. Papadopoulos, B. Lowther, J. Lowndes, T. Angelopoulos, and J. M. Rippe  
Rippe Lifestyle Institute • Celebration, Florida



## INTRODUCTION

The Dietary Guidelines for Americans 2010 moved tomatoes into a newly created "orange/red" category as a strategy to enhance fruit and vegetable consumption. Americans on average consume only 59% of the recommended vegetable goal and 42% of the fruit goal. Given that the consumption of fruits and vegetables is associated with the prevention of chronic diseases, public health policies continue to aim at increasing total fruits and vegetables in the American diet. Nutrients of concern in the American diet include potassium and dietary fiber. Tomatoes can contribute a significant amount of both nutrients.

## PURPOSE

When adding a food component to the diet, it is possible that a reduction in usual foods will occur by way of substitution. The purpose of this present study was to investigate the effects of increased consumption of tomatoes on consumption levels of other sources of fruit and vegetables.

## METHODS

One hundred thirty-two overweight or obese (BMI 27-35) subjects ages 35-70 years old were randomized into one of two groups and instructed to follow a specific nutrition intervention for 10 weeks: 1. Consume two servings of tomatoes each day as part of a MyPyramid hypocaloric (-500Kcal/day) diet (HT) or 2. Consume two servings of tomatoes each day while maintaining a usual diet (UT). At the beginning of the intervention, all subjects were provided recipes and meal ideas on how to include tomatoes in the diet. Tomatoes incorporated were a variety of canned tomatoes of participant's choice. Three-day food diaries were used to collect data on dietary intake and frequency of food group servings at baseline and completion of the 10 week study period.

## RESULTS

The hypocaloric group decreased energy intake to a greater degree than the usual diet group (HT: 1987.4 ± 727.5 vs 1541.9 ± 414.7, UT: 1809.1 ± 552 vs 1730.6 ± 556.6 kcal/day, p<0.001). Tomato consumption increased in both groups (0.47 ± 0.44 vs 2.16 ± 0.99 servings/day, p<0.001) during the course of the study. This was coupled with an increase in total vegetable consumption (3.21 ± 2.06 vs 4.52 ± 1.83 servings/day, p<0.001), but no change in the level of fruit consumption.

## CONCLUSION

These data suggest that even in the face of a reduction in energy intake, a conscious focus on increasing the number of servings per day of tomatoes can improve dietary quality by increasing the number of total servings per day of vegetables.

Figure 1. Energy Intake

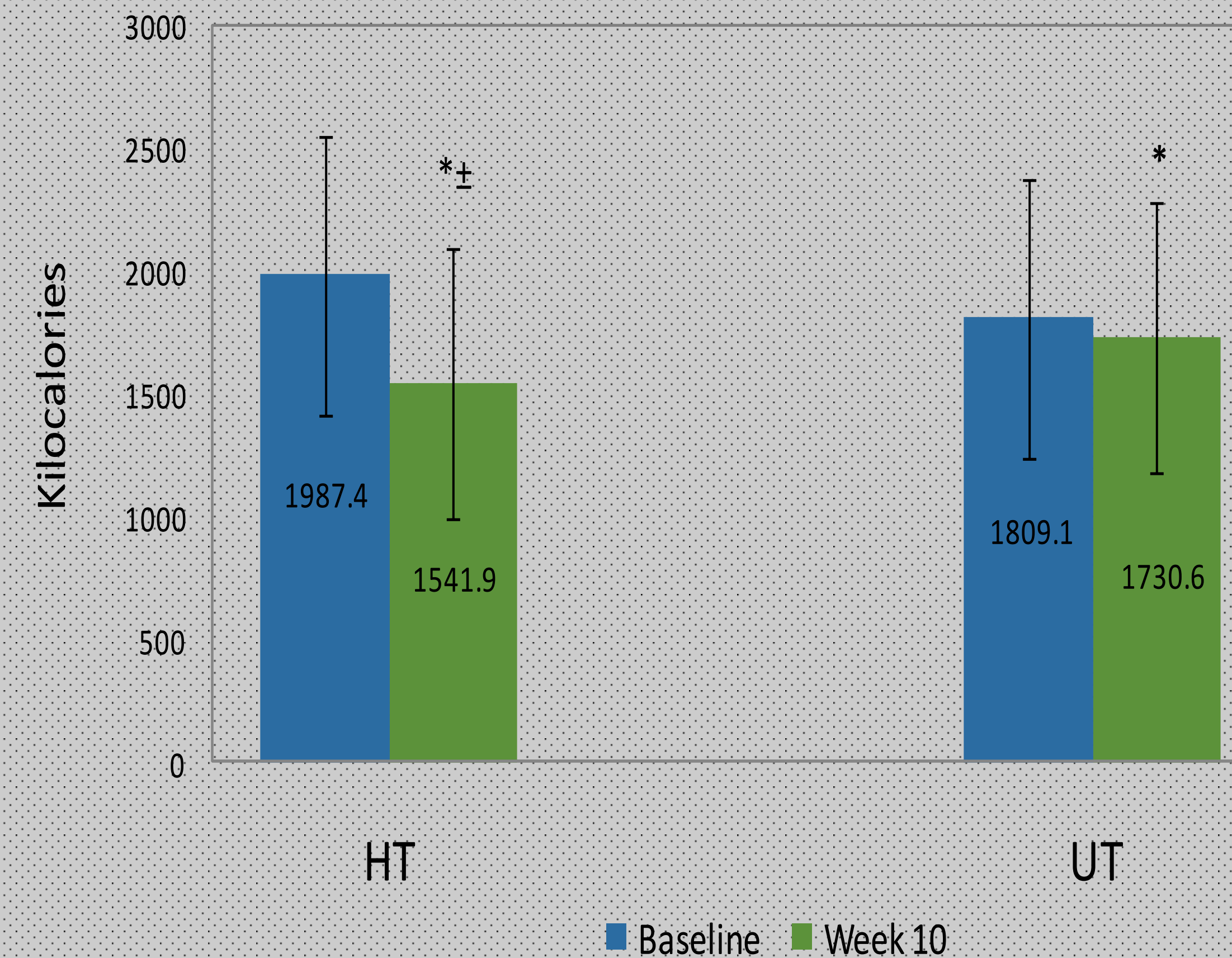
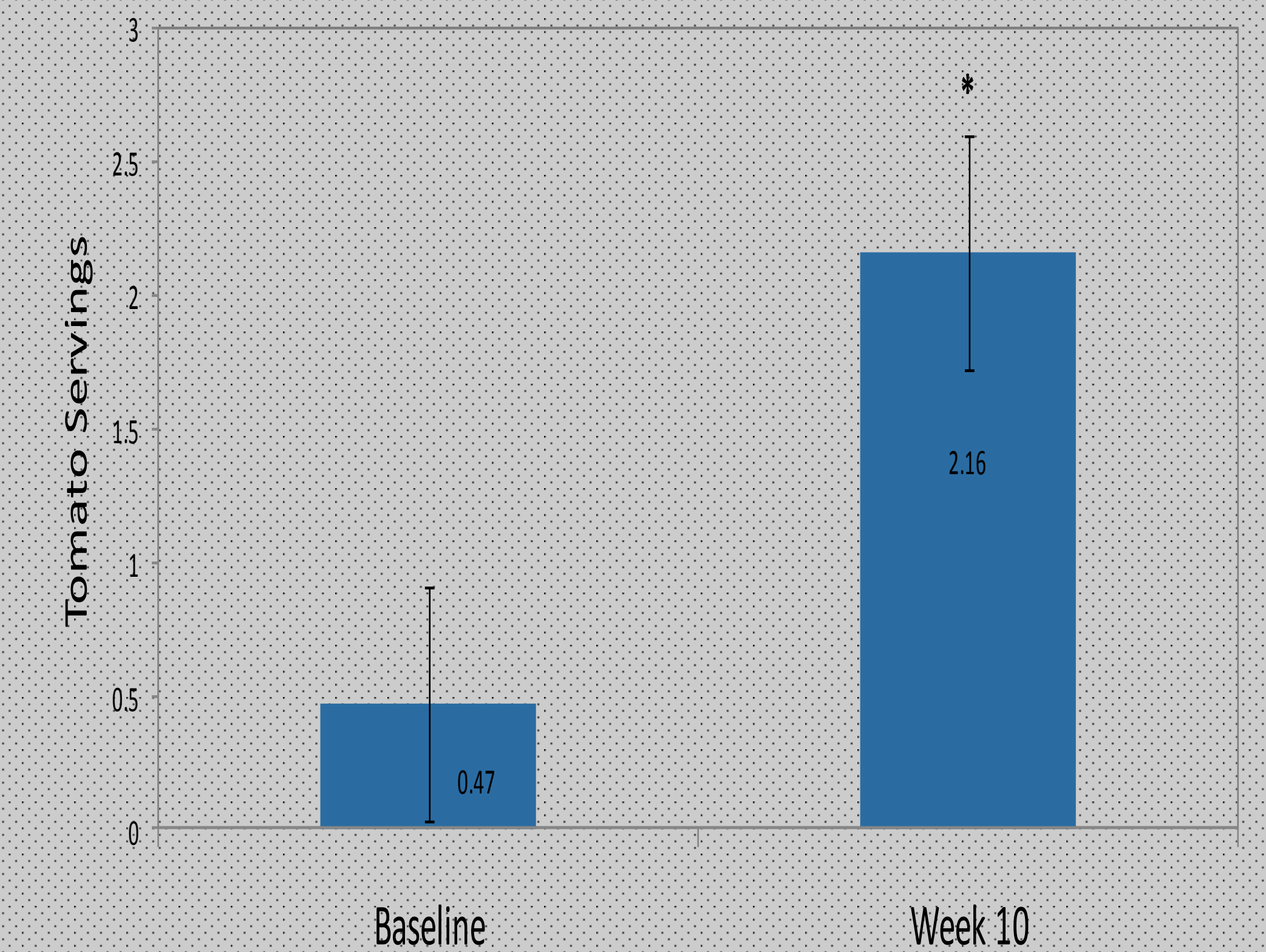


Figure 2. Tomato Intake Combined Groups



\* Different than Baseline, p<0.001, ± Change different than UT, p<0.001

Figure 3. Vegetable Intake Combined Groups

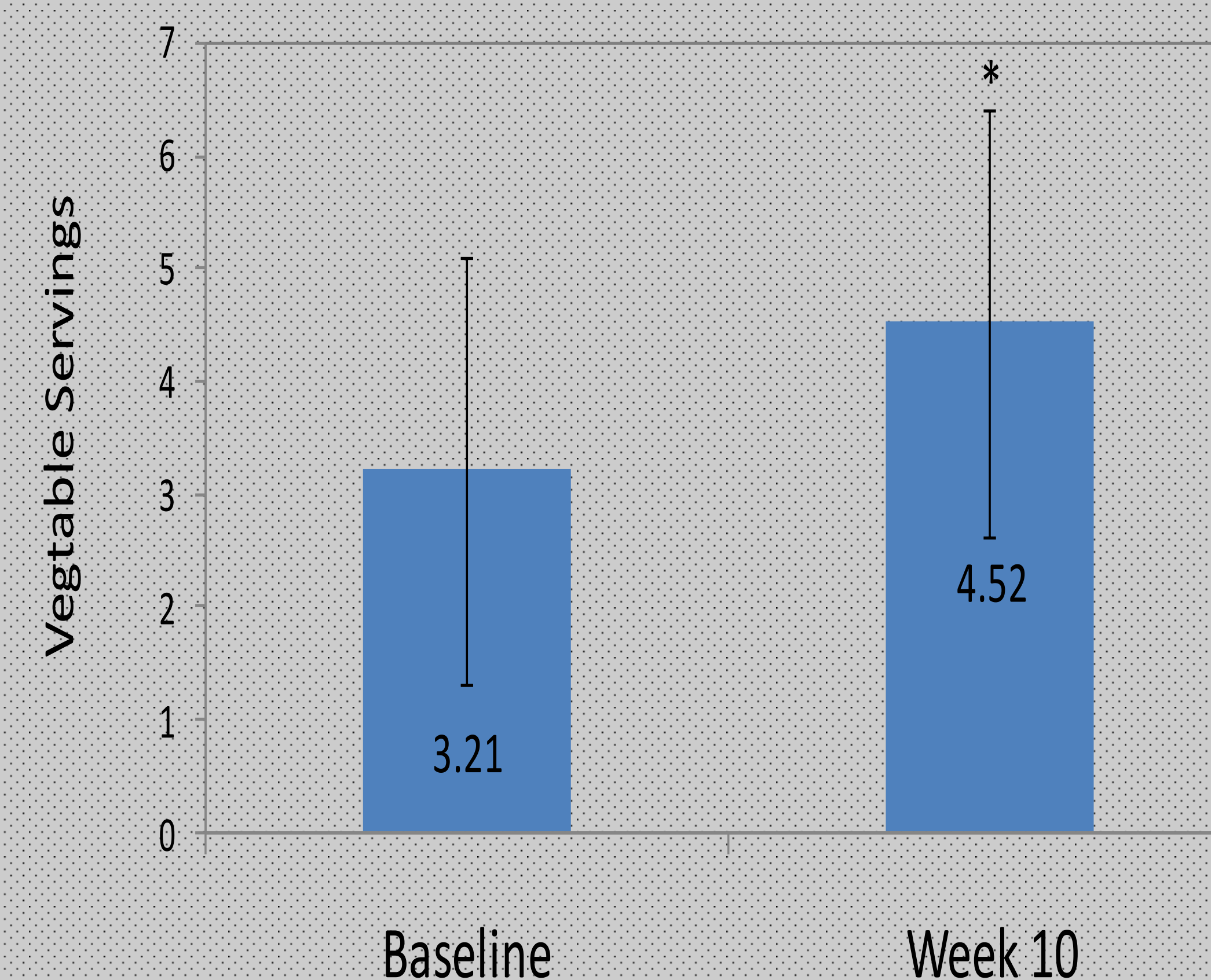


Figure 4. Fruit Intake Combined Groups

