

Effect of Tomato Consumption on the Dietary Pattern of Overweight and Obese Adults

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BACKGROUND

Improving dietary patterns by increasing vegetable intake is recommended by Dietary Guidelines for Americans¹, but US diets remain low in vegetables.² Tomatoes are the predominant vegetable in the 2010 USDA Food Pattern (MyPlate), comprising 82% of the largest subgroup, red/orange vegetables. The MyPlate amount of tomatoes for a 2000 kcal diet is 4.5 cups/week or 0.65 cup/d, as described in the 2010 Dietary Guidelines Advisory Committee Report.³ Usual tomato intake is 0.32 cup/d⁴, thus, Americans under-consume tomatoes by approximately 0.33 cup/d. Because tomatoes are a widely accepted vegetable, a focus on increasing tomato intake may be an effective and feasible method to increase total daily vegetable intake.

PURPOSE

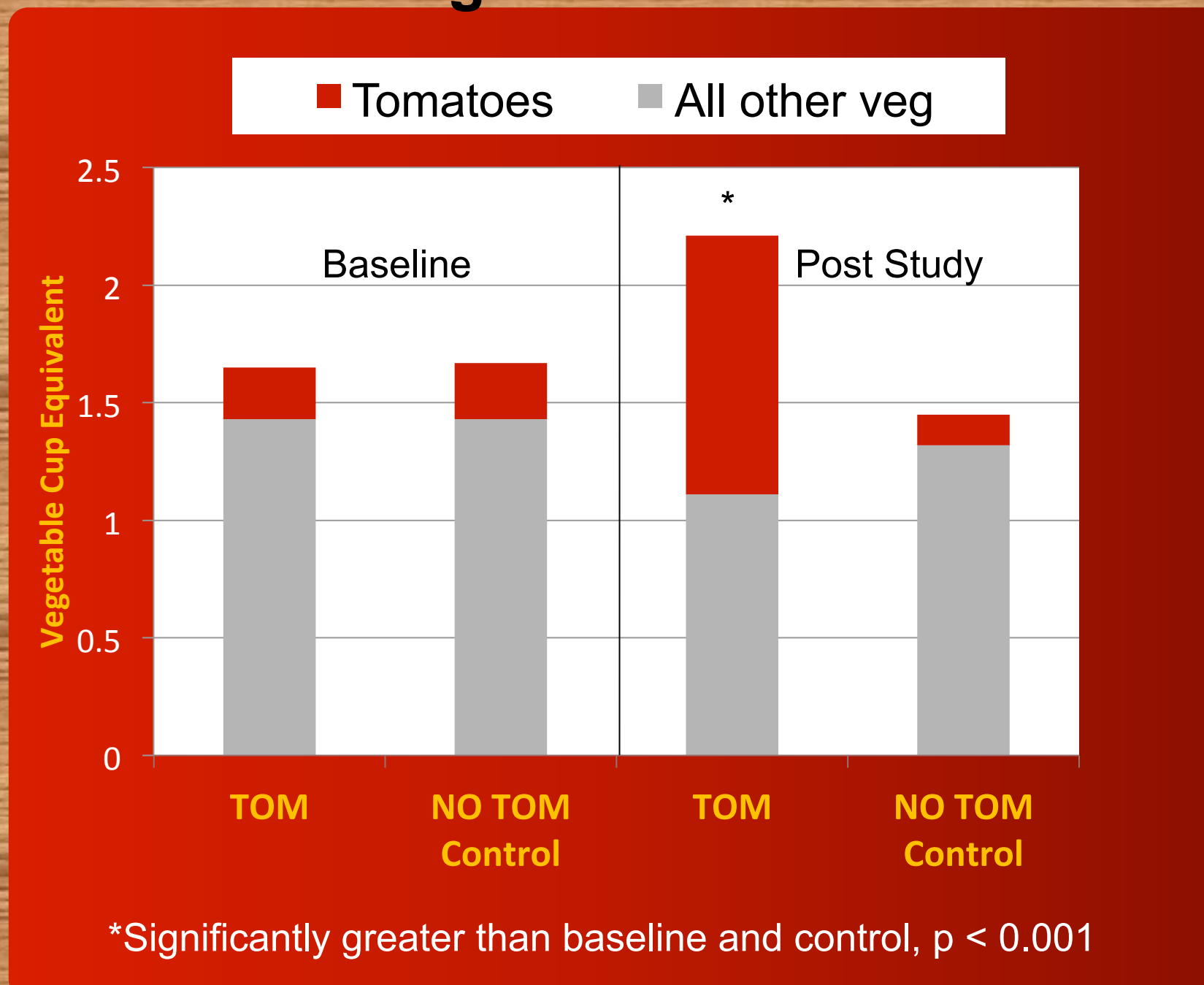
To determine the feasibility of increasing total vegetable intake through increased tomato consumption.

METHODS AND MATERIALS

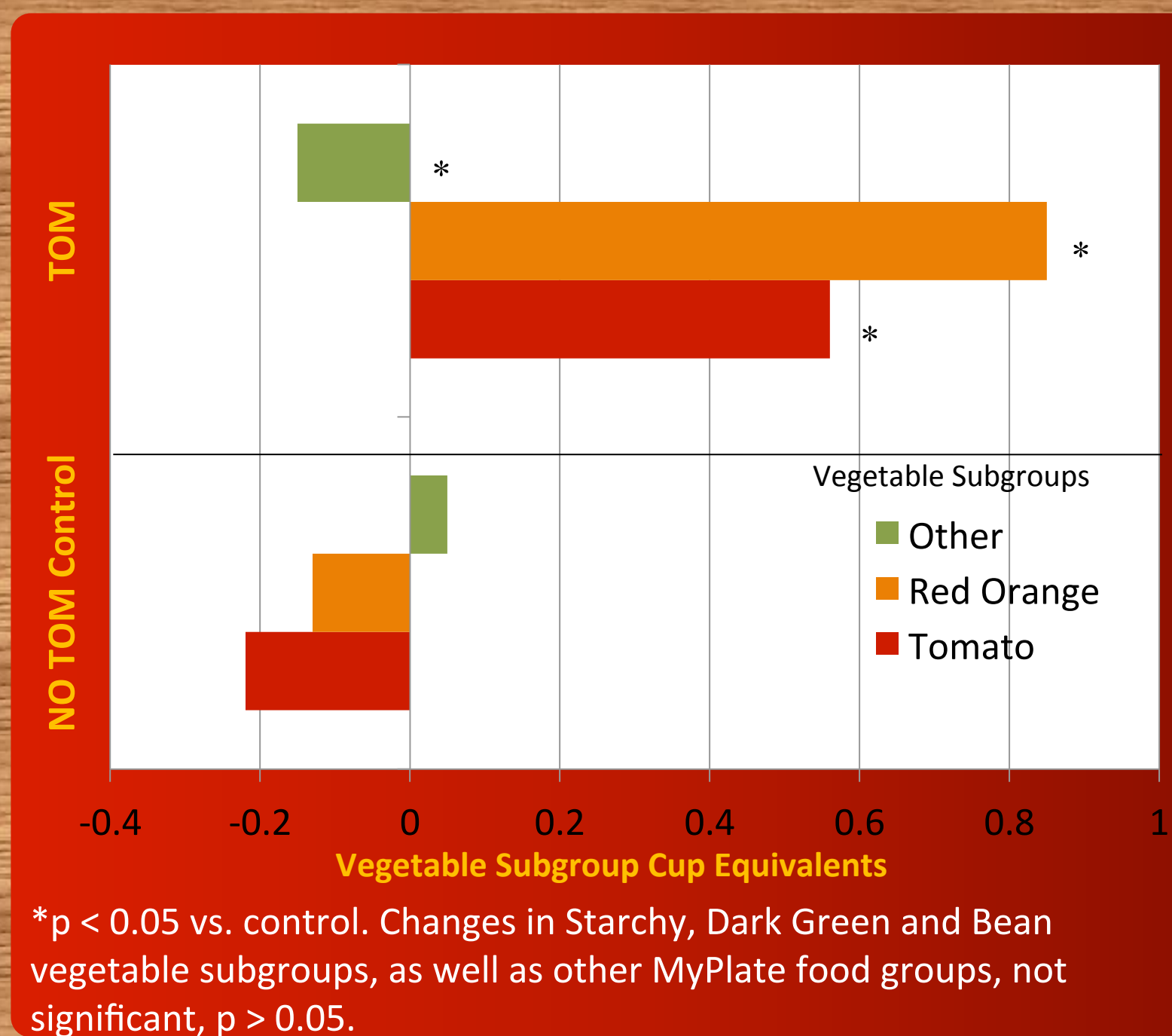
Using a parallel design, 116 adults (93 women, BMI 31.9 ± 3.0) were randomly assigned to no tomato consumption (NO TOM Control, n= 52) or the addition of 1 cup/d of tomato products (TOM, n=64) for 12 weeks, with no other dietary changes. Food group intakes were assessed using the Food Patterns Equivalents Database 2009-10. Energy intake was assessed with 3-d diet records. Wilcoxon Signed Rank Tests were used to determine within group difference and t-tests were used to assess between group differences; significance was set at p < 0.05.

RESULTS

Effect of Increased Tomato Intake on Total Vegetable Intake



Changes in MyPlate Food Group Intakes Between Tomato and Control Groups



CONCLUSIONS AND IMPLICATIONS

Participants successfully added tomatoes to their diets with no significant changes in non-tomato vegetables, MyPlate food groups or energy (not shown). An exception was the decrease in the other vegetable subgroup among the TOM group vs. control. Despite this decrease, tomato intake was additive to non-tomato vegetables and the goal of increased total vegetable intake was achieved. The total vegetable intake of 2.2 cup equivalents/d approached the USDA MyPlate goal of 2.5 cups/d for a 2000 kcal diet. Increasing tomato intake is an approach that may be effective to help people reach the Dietary Guidelines for Americans' goal of increasing total vegetable intake.

REFERENCES

1. U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans*. Washington D.C.: U.S. Government Printing Office, 2010.
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3. 2010 Dietary Guidelines Advisory Committee. Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2010, to the Secretary of Agriculture and the Secretary of Health and Human Services. 2010; <http://www.cnpp.usda.gov/DGAs2010-DGACReport.htm>.
4. Usual Intake of Tomatoes. Risk Factor Monitoring and Methods Branch Web site. <http://riskfactor.cancer.gov/diet/usualintakes/pop/tomatoes.html>.