

Avocado Consumption is Associated with Better Diet Quality, Nutrient Intake and Lower Metabolic Syndrome Risk in US Adults: Results from the National Health and Nutrition Examination Survey (NHANES) 2001- 2008



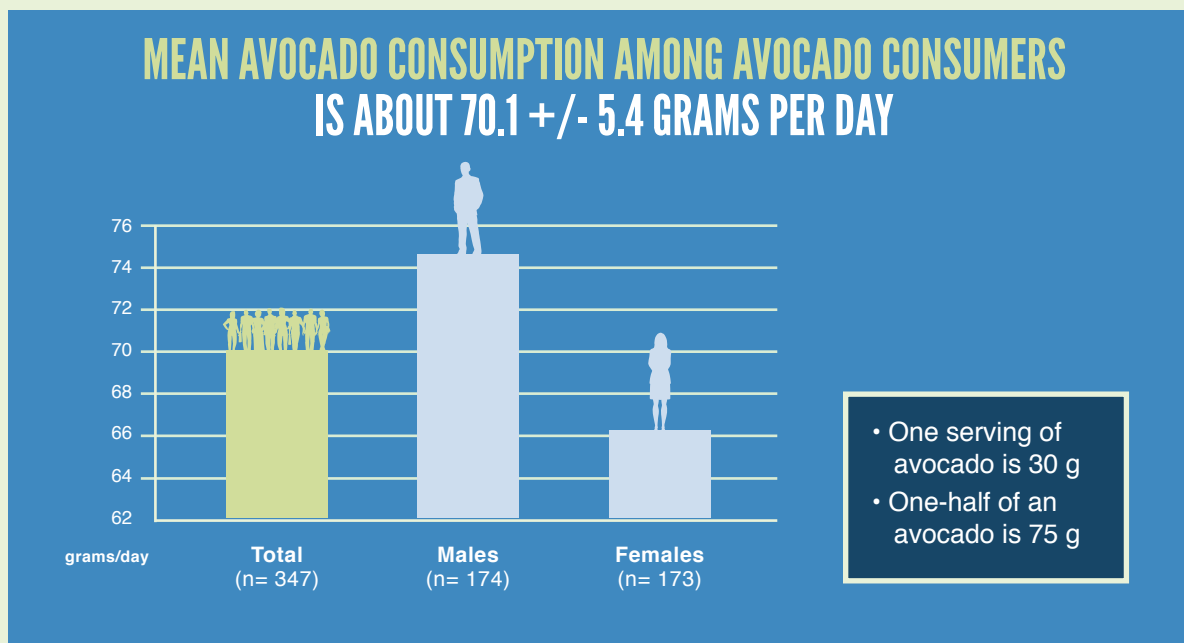
New data published in the January 2013 issue of Nutrition Journal and supported by the Hass Avocado Board, indicates that consuming avocados may be associated with better diet quality and beneficial nutrient intakes, lower intake of added sugars, lower body weight, BMI and waist circumference, higher “good cholesterol” levels and lower metabolic syndrome risk.

The analysis of data from the National Health and Nutrition Examination Survey (NHANES 2001-2008, 17,567 U.S. adults ages 19 years and older) revealed that over the 24 hour recording period, 347 adults (50% female) consumed avocados (in any amount). The avocado consumers had several significantly better nutrient intake levels and more positive health parameters than non-consumers.

STUDY FINDINGS

Average daily avocado consumption

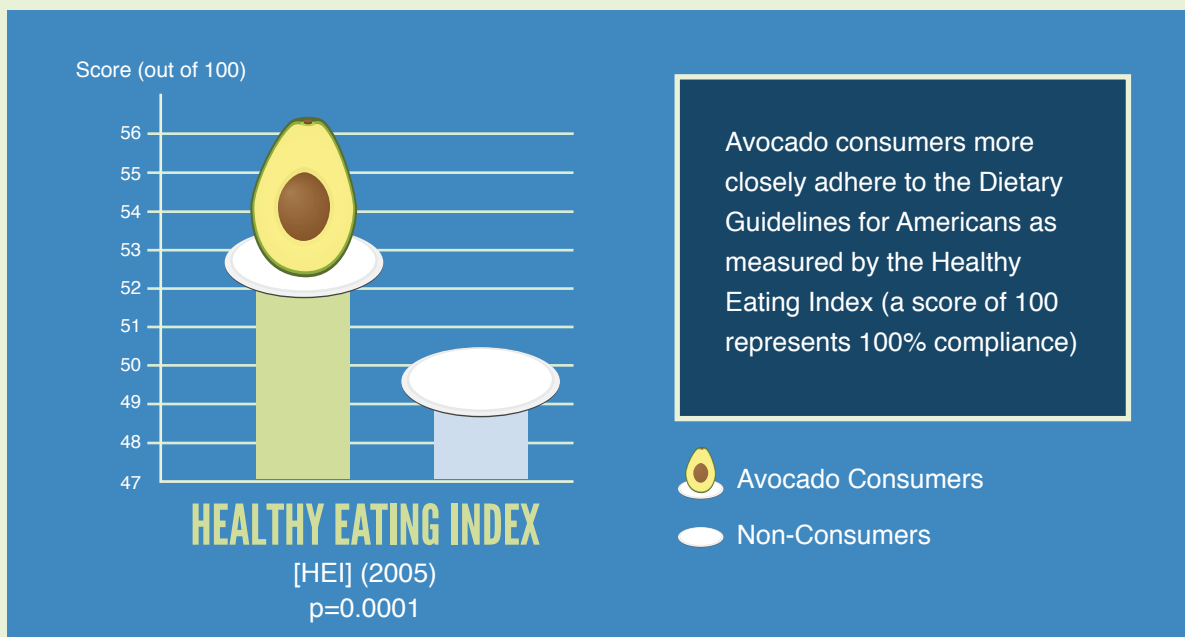
- The average daily avocado consumption among the avocado consumers was about one half (70.1 +/- 5.4 g/day) of a medium sized avocado. Consumption of avocados was higher in males (75.3 +/-6.3 g/day) than females (66.7 +/- 7.3 g/day).



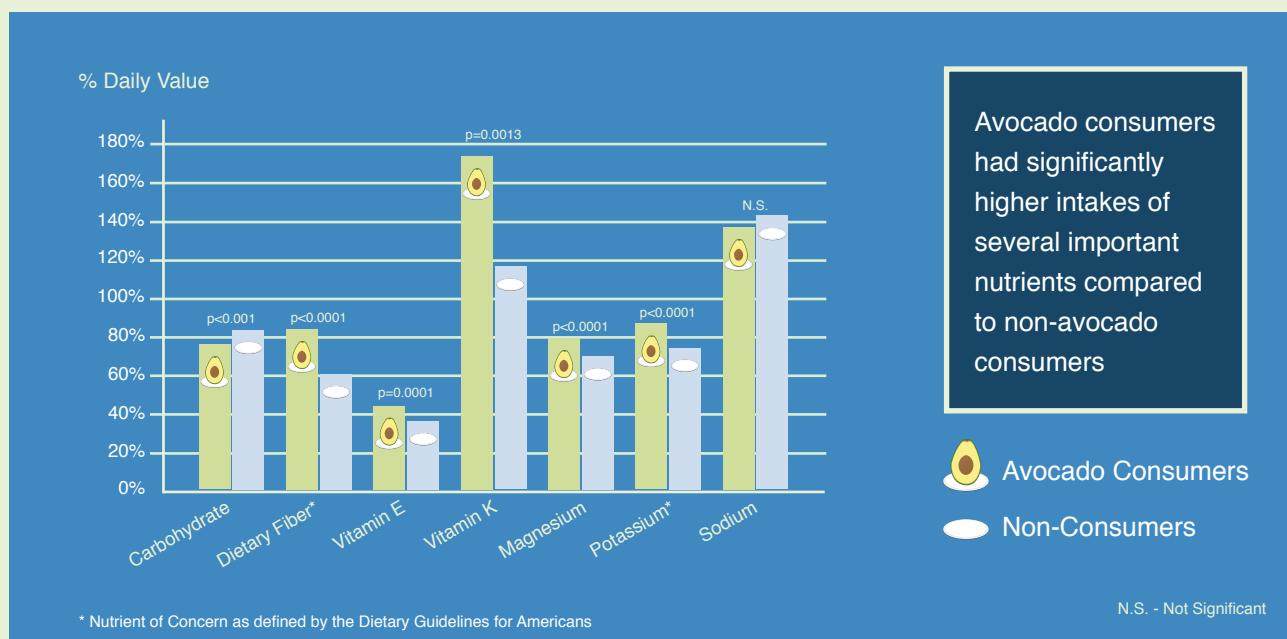
Diet quality, energy and nutrient intakes

Avocado consumers more closely adhere to the Dietary Guidelines for Americans compared to those who don't eat avocados; avocado consumers had higher Healthy Eating Index diet quality scores than non-consumers

- The Healthy Eating Index (HEI) is used by the USDA as a measure of diet quality that assesses conformance to federal dietary guidance. A score of 100 would indicate 100% compliance to the US Dietary Guidelines for Americans
- Avocado consumers had significantly higher overall diet quality than non-consumers



- Avocado consumers had significantly higher intakes of fruits and vegetables than non-consumers
- Avocado consumers had significantly higher intakes of certain important nutrients including 36% more dietary fiber, 23% more vitamin E, 13% more magnesium, 16% more potassium and 48% more vitamin K than non-consumers



- Avocado consumers had significantly higher intakes of good fats (18% more monounsaturated and 12% more polyunsaturated) and total fats (11% more) than non-consumers
- Avocado consumers had significantly lower intake of added sugars than non-consumers
- Avocado consumers and non-consumers had similar intakes of sodium and total daily calories (even though avocado consumers had significantly higher intakes of good fats and total fats)

Physiological health measures

- Avocado consumers had significantly lower BMI values than non-consumers
- Avocado consumers had significantly smaller waist circumference measures than non-consumers (an average of 4 cm smaller)
- Avocado consumers weighed significantly less than non-consumers (an average of 7.5 pounds less)
- Avocado consumers had significantly higher HDL (“good”) cholesterol levels

Metabolic syndrome risk

Avocado consumers had a 50% lower odds ratio for metabolic syndrome compared to non-consumers

- Metabolic syndrome is a name for a group of risk factors that occur together and increase the risk for coronary artery disease, stroke, and type-2 diabetes. Metabolic syndrome is defined as the presence of three or more of the following components: waist circumference ≥ 40 in (102 cm) for males or ≥ 35 in (88 cm) for females; triglycerides ≥ 150 mg/dL; HDL-C <40 mg/dL for males and < 50 mg/dL for females; blood pressure $\geq 130/85$ mm Hg; or fasting glucose ≥ 100 mg/dL

These findings are based on NHANES survey data from the National Center for Health Statistics of the Centers for Disease Control and Prevention, and the 24-hour dietary recalls may be inaccurate and biased due to misreporting and memory lapses. The findings cannot provide causal evidence between avocado consumption and improvements in diet quality.

- Despite the limitations of this study, avocados may have a role in promoting overall good nutrition and diet quality. Health professionals can recommend consumption of avocados as part of a healthful diet that focuses on increased fruit and vegetable intake.
- Incorporating avocados into a healthy diet may be of additional benefit to adults at increased risk for metabolic disease risk factors.

While these are initial research findings from a single analysis, they add to a growing body of research investigating the effects of consuming fresh Hass Avocados on human health and nutrition. The findings indicate there is an interesting association with the consumption of avocados and better nutrient intakes and other positive outcomes.

- The Hass Avocado Board is funding clinical studies to investigate the relationship between fresh avocado consumption and risk factors for cardiovascular disease, avocados’ potential positive role in weight management and diabetes, and avocados’ ability to enhance nutrient absorption.

- » For more information on avocado nutrition and avocado research, visit AvocadoCentral.com/nutrition
- » View the full research study at <http://www.nutritionj.com/content/12/1/1>