

Characteristics of Americans Choosing Vegetarian and Vegan Diets for Health Reasons

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ABSTRACT

Objective: Examine the prevalence, patterns, and associated factors of using a vegetarian or vegan diet for health reasons in the US general population.

Design: Cross-sectional data from the 2012 National Health Interview Survey.

Participants: Nationally representative sample (N = 34,525).

Variables Measured: Prevalence of ever use and 12-month use of vegetarian or vegan diet for health reasons, patterns of use, and sociodemographic and health-related factor associated with use.

Analysis: Multiple logistic regression analysis.

Results: Prevalence of ever use and 12-month use was 4.0% (n = 1,367) and 1.9% (n = 648), respectively. Health vegetarians and vegans were more likely aged 30–65 years, female, not Hispanic, from the Western US region, at least high school educated, chronically ill, and physically active. They were less likely to be in a relationship, overweight or obese, or smoking, or to have public or private health insurance. Among health vegetarians and vegans, 6.3% consulted with a practitioner for special diets; 26.1% followed the diet because of a specific health problem, mainly high cholesterol, overweight, hypertension, and diabetes; and 59.4% disclosed the diet to their health care provider.

Conclusions and Implications: Less than 2% of participants reported using a vegetarian or vegan diet for health reasons within the past 12 months. Despite potential benefits of plant-based nutrition, more research is warranted on the actual use and its effects and safety.

Key Words: vegetarian, vegan, diet, survey, prevalence (*J Nutr Educ Behav.* 2017;49:561-567.)

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INTRODUCTION

Vegetarianism is a broad term that encompasses a diverse and heterogeneous range of dietary practices. According to the Academy of Nutrition and Dietetics, a vegetarian diet is one that “does not include meat (including fowl) or sea-

food, or products containing these foods,”¹ which varies from one that incorporates dairy products (lacto-vegetarianism) or eggs (ovo-vegetarianism) to one that avoids all flesh, dairy, and egg foods and sometimes honey (veganism).² Several activists and influential lobby organizations in the field³ also refer to plant-

based nutrition instead of vegan nutrition. The diverse and heterogeneous range of dietary practice as well as the nonuniform use of terminology in both research and practice contributes much to the complexity of the topic.⁴

There are a variety of reasons for using a vegetarian or vegan diet, including moral, ethical, spiritual, or religious reasons as well as those concerning animal rights and animal welfare,⁵ or social or environmental concerns related to intensive animal husbandry or sustainability.^{6,7} A vegetarian or vegan diet can also be part of certain types of lifestyle and identity,⁸ or more health-related and part of a health intervention.^{4,6} The decision to use a vegetarian or vegan diet for health reasons might be strongly influenced by public perceptions of the health advantages,⁹ and a growing number of clinical and epidemiological research studies have shown health benefits associated with vegetarian and vegan diets. Results indicated that a vegetarian diet might be associated with a reduction in body weight,¹⁰ a lower incidence of the metabolic syndrome¹¹ or diabetes,¹¹

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improvements in blood pressure¹² and dyslipidemia¹³ and a lower incidence and/or mortality related to ischemic heart disease¹⁴ (indicating particular benefits for cardiovascular outcomes).^{11,15-19} Other studies also linked vegetarianism and veganism to a reduced incidence of cancer¹⁴; however, a vegetarian, and especially vegan diet, might also be related to health risks including nutritional deficiencies such as vitamin B12,²⁰ zinc,²¹ and iron.²²

To date few studies have investigated the prevalence of vegetarian and vegan nutrition. The reported prevalence rates have been highly variable, ranging from 0.77% in China²³ to 0.79% in Italy,²⁴ 2.4% to 3.3% in the US,^{25,26} 3% to 8% in South Australia,²⁷ 3.8% to 15.6% in Scandinavia,²⁸ up to 33% in South Asia,²⁵ and 36% in India.²⁹ Whereas cultural and/or religious factors might substantially influence prevalence, methodological issues cannot be ruled out as contributing factors. Such issues relate to the definition and measurement of vegetarian diets (eg, self-identified, analyses of food frequency), or diversity of study samples (eg, age, area, socioeconomic status) among others, whereas some reports also lack a clear report of methodology.²⁶ Last but not least, much research is older than a decade,^{25,27,28} although (primarily) plant-based forms of nutrition seem to have gained increasing popularity.³⁰ These issues highlight the need for more recent, robust, and generalizable data on the prevalence of vegetarian forms of nutrition.

Given the potential implications of vegetarian and vegan nutrition on health and well-being, a better understanding of vegetarian and vegan diet use for health reasons is warranted. Thus this study aimed to identify prevalence and patterns of vegetarian and vegan diets for health reasons, and factors associated with vegetarian and vegan diet use for health reasons in a nationally representative US sample. The findings of this study will help inform future research, clinical practice, health policy, and public health initiatives.

METHODS

Study Design

The researchers performed a secondary analysis of 2012 US National Health Interview Survey data.

Data

This analysis was based on a nationally representative survey monitoring the health of the US population in 2012.³¹ For this analysis, data from the Family Core, the Sample Adult Core, and the Adult Complementary and Alternative Medicine questionnaire were used. The 2012 National Health Interview Survey was approved by the Research Ethics Review Board at the National Center for Health Statistics.

Measures

The Family Core and the Sample Adult Core questionnaire collected data regarding participants' sociodemographic characteristics, including age, gender, ethnicity, region, marital status, education, annual household income, and self-perceived general health status. The Adult Complementary and Alternative Medicine questionnaire collected data on the use of a number of interventions including special diets. Lifetime prevalence of health vegetarian or vegan diet use was determined with the following question: *Have you ever used any of the following special diets for two weeks or more for health reasons: vegetarian, including vegan?* Those who answered yes were presented with an additional question asking whether they had also used a vegetarian including vegan diet for health reasons during the past 12 months. They were further queried about whether they had ever seen a practitioner for special diets, and provided information on the frequency, costs, and health insurance coverage for those consultations.

Respondents who had used a vegetarian or vegan diet for health reasons in the past 12 months were asked their reasons for using such a diet, including general reasons and specific medical conditions (a total of 88 possible conditions), disclosure toward their personal health care provider or reasons for nondisclosure, perceived benefits of diet use, and information sources about vegetarian or vegan diet.

Statistical Analyses

A total of 42,366 households were eligible and 34,525 adults provided data (response rate of 79.7%).³² Estimates were calculated using weights cali-

brated to the 2010 Census-based population estimates for age, gender, and ethnicity of the US civilian non-institutionalized population.

Prevalence of ever use and 12-month use of vegetarian or vegan diet for health reasons were analyzed descriptively, as were details on vegetarian and vegan diet, reasons for practice, and outcomes. Results were reported as means and SDs, medians and ranges, weighted frequencies, and distributions, as were reasonable.

Sociodemographic characteristics were compared between those who had used a vegetarian or vegan diet ever in their life or within the prior 12 months and those who had not, using chi-square test. Factors independently associated with vegetarian or vegan diet use (ever used, used in the prior 12 months) were identified using multiple logistic regression analysis. The following sociodemographic variables were considered: age in years (18–29, 30–39, 40–49, 50–64, or ≥65), gender (female, male), ethnicity (non-Hispanic white, Hispanic, African American, Asian, or other), region (west, northeast, midwest, or south), marital status (not in relationship, in relationship), education (less than college, some college or more), and annual household income (<\$20,000, \$20,000 to \$34,999, \$35,000 to \$64,999 or ≥\$65,000). In addition, health-related factors such as general health status (excellent or very good, good, fair, or poor), body mass index (<18.5–<25, 25–<30, or ≥30), health behaviors such as smoking (nonsmoker, smoker), alcohol consumption (alcohol abstainer, light drinker, regular, or heavy drinker), and exercise behavior (low-level exerciser, moderate-level exerciser, or high-level exerciser); number of chronic medical conditions and diseases (none, 1, 2, or ≥3); and health insurance (no health insurance, public health insurance, or private health insurance) were used as potential associated factors. These variables were chosen because they were shown to be associated with using other complementary therapies in the National Health Interview Survey.³³⁻³⁹

A backward stepwise procedure with a likelihood ratio statistic $P \leq .05$ was chosen and adjusted odds ratios with 95% confidence intervals were calculated. Only those variables associated with vegetarian or vegan diet use at

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