

Diet Quality Differs Significantly in Higher Plant Protein Consumers vs Higher Animal Protein Consumers

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Objectives: The primary aim was to analyze differences in diet quality among higher plant protein (HPP) consumers vs higher animal protein consumers (HAP), with a secondary aim to explore intake of sodium, added sugar, saturated fat, whole and refined grains between the HPP group vs the HAP group.

Methods: Adults consuming either plant-based or animal-based diets were recruited to complete an online cross-sectional study. The Diet History Questionnaire III, a validated food frequency questionnaire, evaluated dietary intake over the past 3 months and calculated the Healthy Eating Index (HEI 2015) total and component scores. Due to 30% of the sample miss-classifying their diet type, participants were reclassified into the HAP and HPP groups using a median split value for total daily plant (29.51 g) and animal protein (28.2 g) to form two mutually exclusive groups. The primary aim was analyzed using an ANCOVA model, controlling for age and race. The secondary aim was analyzed using MANOVA to evaluate differences in consumption of sodium, added sugar, saturated fat, whole and refined grains between the HPP and HAP groups.

Results: The sample ($n = 89$) was primarily healthy, adult (29.1 ± 11.5 years) white (85.5%), and female (77.5%). HPP participants consumed on average 58.1 ± 23.2 grams of total protein with 42.7 ± 17.5 grams coming from plant sources while HAP participants consumed on average 77.7 ± 36.8 grams of total protein with 53.8 ± 31.5 grams coming from animal sources. There was a significant difference in overall diet quality between the HPP group (78.5 ± 7.6) vs the HAP group (65.7 ± 12.4) after controlling for age and race ($p < 0.01$). HPP participants had higher ($p < 0.01$) intake of whole grains (1.7 ± 0.1 oz/day) than HAP consumers (1.0 ± 0.1 oz/day). HPP participants consumed less ($p < 0.01$) saturated fat (13.9 ± 7.1 g/day) compared to the HAP participants (20.8 ± 10.8 g/day). There were no differences between groups for intake of added sugar ($p = 0.10$), sodium ($p = 0.59$), or refined grains ($p = 0.13$).

Conclusions: In this sample, HPP consumption was associated with higher overall diet quality than HAP, along with more whole grains and lower consumption of saturated fat. Work is needed in more diverse populations. Ultimately such research can inform nutrition education for people with HPP and HAP dietary patterns.

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