Adherence, Compliance, and Diet Quality Among Popular Diet Followers

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Objectives: 1. To compare diet quality of vegan, vegetarian, paleo, and whole-food plant-based (WFPB) diets; 2. To examine how adherence varies by diet and relates to quality and diet duration; 3. To examine how compliance varies by diet and relates to quality, adherence, and duration.

Methods: Analysis was conducted on a subsample of ADAPT participants (n = 1392) who completed a demographics and food frequency questionnaire (FFQ; DHQ-II). After excluding implausible energy intake (600 ≤ KCAL < 5,000), the final sample was 1291 (vegan [n = 355]; vegetarian [n = 90]; WFPB [n = 710]; paleo [n = 136]). Diet quality was measured with HEI and AHEI. Duration was categorized as short [<2 years (n = 501)]; moderate [2 to <7 y (n = 200)]; and long-term [7–10 + y (n = 592)]. A self-report adherence score was derived from questions targeting commitment to diet, ranging from 0–32. Compliance score for each diet was derived from reported intakes and DHQ-II (i.e., diet-specific restrictions), and data were %-based standardized. Models were adjusted for age and sex; select models were adjusted for diet duration.

Results: Mean (SD) HEI score was high in all plant-based diets, highest for WFPB 76.7(5.8), vegan 75.7 (6.5), vegetarian 72.6 (9.2), compared to paleo 62.5 (8.5); and with a similar ranking for AHEI. Vegans had highest mean adherence 23.5 (2.8) and paleos the lowest 20.0 (3.3). Vegetarians had highest mean compliance 71% (9) and WFPB lowest 53% (10). Compliance was positively associated with HEI score for WFPB and vegan with one percentage point of compliance associated with a 6.4-point increase in HEI for WFPB (SE ± 2, $p < .004$) and 17.1 for vegan (SE ± 4, $p < .0001$). For every point increase in compliance, adherence improved (5.4 ± 0.8, $p < .0001$) in the full sample, and by diet group. Diet duration was significantly associated with adherence in all but vegetarian. No relationship was observed between duration and compliance within diet.

Conclusions: WFPB and vegan diets had the highest diet quality; all four had higher mean HEI than reported average in US adults (HEI = 59). Findings suggest that even imperfect compliance to plant-based diets is associated with greater diet quality. Diet adherence is a complex component of eating behavior, however reported adherence appears to predict higher compliance and longer maintenance.

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