

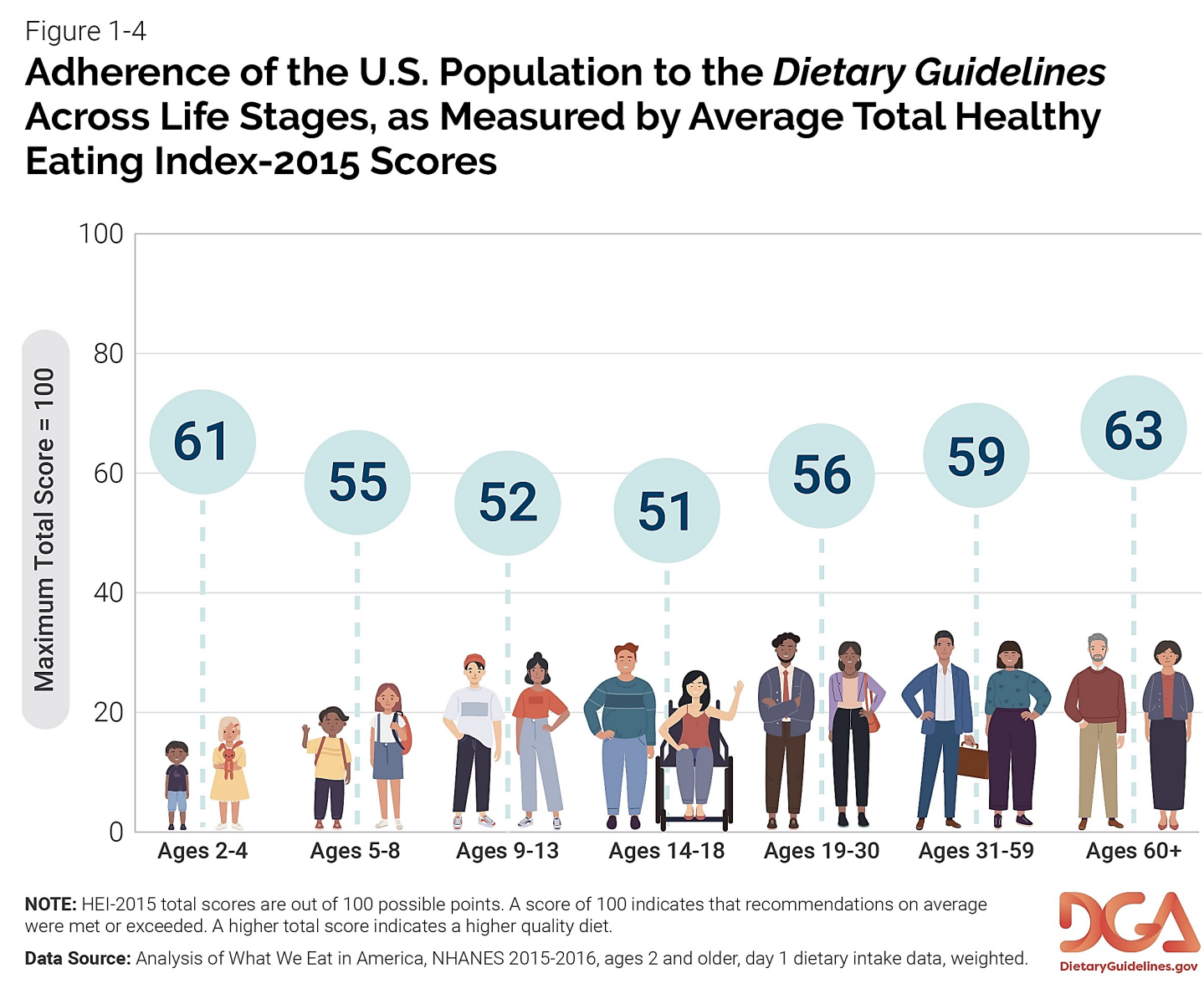
Opportunities for Maximizing the Dietary Quality of Fad Diets

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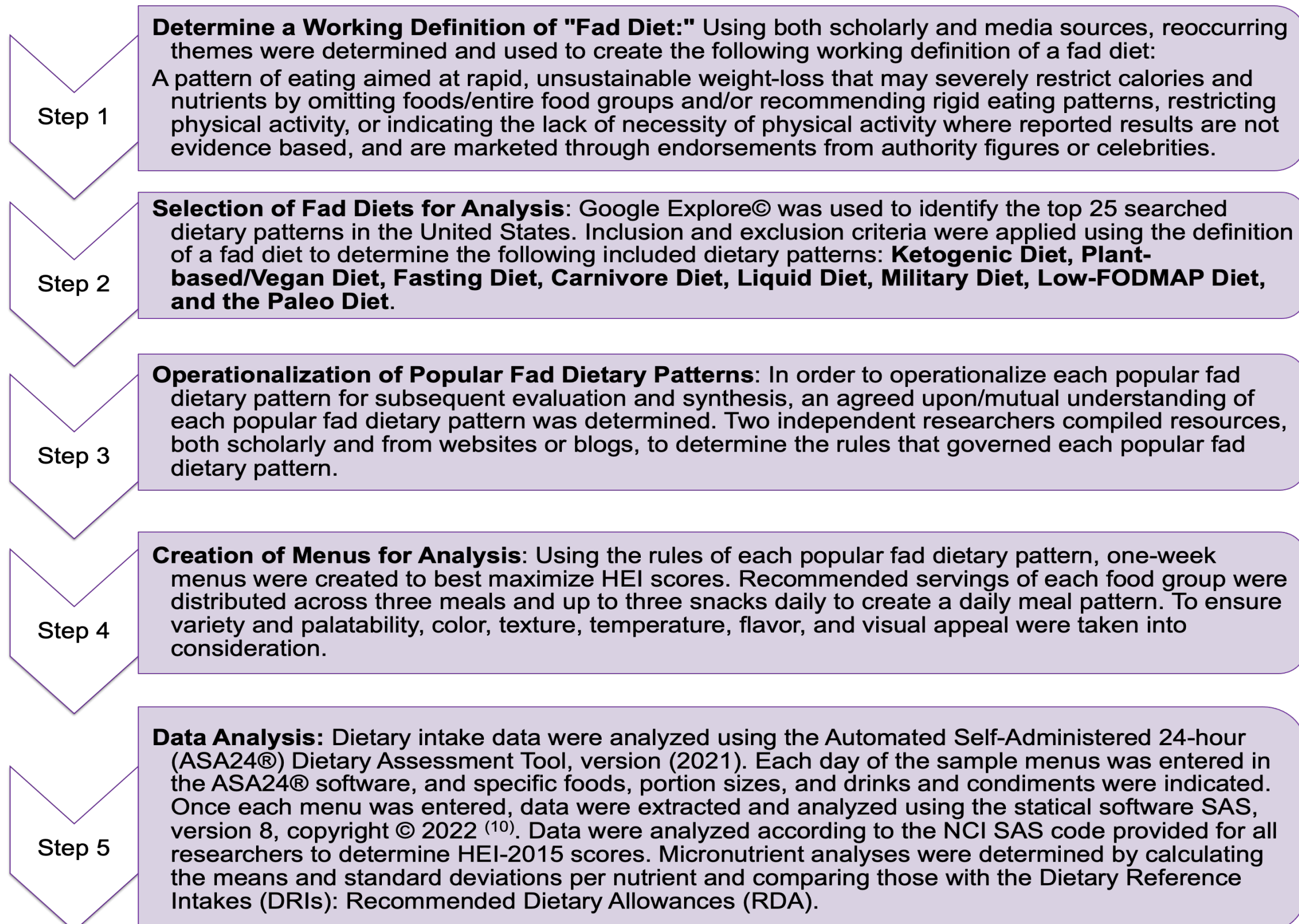
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Background & Objectives

- According to the most recent release of the Dietary Guidelines for Americans (DGAs), Healthy Eating Index (HEI) scores have remained consistently low, around 60 points out of 100, throughout the last 15 years, ¹ indicating poor adherence to the DGA recommendations for a healthful diet.
- A high-quality diet may be achieved in many ways through the intake of a variety of foods, and dietary patterns can be either health-promoting or health-compromising. ²
- Dietary patterns thought to be generally health-promoting include high intake of fruits, vegetables, fatty acids, fibers, and low intake of added sugars, sodium, saturated fats, and trans-fats.
- Conversely, the Westernized Diet, generally considered to be health-compromising, comprises large portion sizes and is characterized by low intake of fruits and vegetables, and high intake of calories, fats, sodium, and sugars. ³
- Overall, despite continual refinement of the DGAs to reflect current nutrition needs, adherence to the guidelines remains problematic, and the quality of the American diet is persistently within the “needs improvement” HEI scoring range of 51–80. ⁴
- Therefore, the primary purpose of the current study was to determine the most “popular” fad dietary patterns in the United States. The secondary purpose was to evaluate the dietary quality of relevant popular fad dietary patterns as compared to the DGAs. Finally, we synthesized the results across the included fad dietary patterns in order to offer insights regarding opportunities for maximizing the dietary quality of fad diets.



Methods



The Ketogenic Diet, Plant-based/Vegan Diet, Fasting Diet, Carnivore Diet, Liquid Diet, Military Diet, Low-FODMAP Diet, and the Paleo Diet, were identified for inclusion in the current study based upon inclusion and exclusion criteria for the fad diet themes. Total HEI scores ranged from 26.7 (Carnivore) to 89.1 (Low-FODMAP). The six highest total HEI scores ranged from 77.1–89.1. Total calorie provision was the highest in the Liquid Diet (2,143 kcal/day), and lowest in the Carnivore Diet (1,302 kcal/day). Excluding the Carnivore Diet and Liquid Diet, the remaining seven popular fad dietary patterns total calories ranged from 1,524 kcal/day for the Paleo Diet, to 1,852kcal/day for the Ketogenic Diet.

Ketogenic Diet

Dietary pattern characterized by low-carbohydrate intake (< 50g/day), moderate-protein intake (~20% of total caloric intake), and high-fat intake (~70% of total caloric intake). ⁵

Plant Based/Vegan Diet

The vegan diet is a plant-only diet that allows no consumption of animal products; a vegetarian diet is a plant-based diet where eggs and dairy may be consumed. ⁶

Fasting Diet

Periods of time spent fasting followed by normal eating, where this process is repeated for potential health effects. ⁷

- Alternate day fasting: one day of fasting followed by a day of eating
- Alternate day modified fasting: 2 days fasting per week, 5 days of normal eating
- Periodic fasting: numerous days of consecutive fasting per month
- Time restricted feeding: restricted eating window to certain hours of the day

Carnivore Diet

No caloric restriction necessary, and no fruits or vegetables are acceptable. The only permitted foods are meat, especially fatty cuts, and animal byproducts like bone marrow or bone broth. ⁸

Liquid Diet

Diet consisting of the following permitted liquids:

- Water (plain, carbonated, or flavored)
- Fruit juices without pulp, such as apple or white grape juice
- Bone broth
- Miso
- Strained vegetable juice
- 100% fruit juice popsicles

Generally used for pre-operation situations where an empty colon is required, helping individuals maintain hydration and electrolyte balance. ⁹

Military Diet

Three-day weight-loss program of rigid eating followed by four days of normal eating; options are available for individuals following a plant-based diet; no other beverages or foods are permitted. ¹⁰

Low-FODMAP Diet

Dietary pattern that uses restriction of carbohydrate rich foods—highly fermentable oligosaccharides, disaccharides, monosaccharides, and polysaccharides—to treat IBS, SIBO, and other gastrointestinal distress disorders. Once symptoms subside, carbohydrate rich foods are reintroduced into the diet as tolerated. ^{11,12}

Paleolithic Diet

Dietary pattern that restricts consumption of grains, legumes, peanuts, peas, dairy products, refined sugar, artificial sweeteners, salt, potatoes, trans fats, vegetable oils, and highly processed foods and emphasizes intake of fruits, vegetables, lean proteins, seafood, nuts, and seeds. ¹³

Results

| | DGA Compliant Diet | Ketogenic Diet | Plant Based/Vegan Diet | Fasting Diet | Carnivore Diet | Liquid Diet | Military Diet | Low FODMAP Diet | Paleo Diet |
|----------------------|--------------------|----------------|------------------------|--------------|----------------|-------------|---------------|-----------------|------------|
| HEI Score | 81 | 77 | 84 | 86 | 27 | 57 | 82 | 89 | 68 |
| Whole Grains | Green | Red | Green | Green | Red | Green | Green | Green | Red |
| Dairy (Alternatives) | Green | Red | Green | Green | Red | Green | Green | Green | Red |
| Fatty Acids Ratio | Green | Green | Green | Green | Green | Green | Red | Green | Green |
| Total Vegetable | Green | Green | Green | Green | Red | Green | Green | Green | Green |
| Greens & Beans | Green | Green | Green | Green | Red | Green | Green | Green | Green |
| Total Fruit | Green | Green | Green | Green | Red | Green | Green | Green | Green |
| Whole Fruit | Green | Green | Green | Green | Red | Green | Green | Green | Green |
| Total Protein | Green | Green | Green | Green | Red | Green | Green | Green | Green |
| Seafood & Protein | Green | Green | Green | Green | Red | Green | Green | Green | Green |
| Sodium | Red | Green | Red | Red | Red | Green | Green | Red | Green |
| Refined Grains | Green | Green | Green | Green | Red | Green | Green | Green | Green |
| Saturated Fats | Green | Green | Green | Green | Red | Green | Green | Green | Green |
| Added Sugars | Green | Green | Green | Green | Red | Green | Green | Green | Green |

Table 1. Healthy Eating Index- 2015 Nutritional Analysis

Each fad dietary pattern was compared to the Dietary Guidelines for Americans via the Health Eating Index (HEI). Cells in **Green** indicate the areas where scores were 80–100% of the maximum score (good). **Yellow** cells indicate the areas where scores were 60–80% of the maximum score (needs improvement). **Red** cells indicate the areas where scores were 0–59% of the maximum score (poor). Additionally, overall HEI scores are provided (out of a possible score of 100).

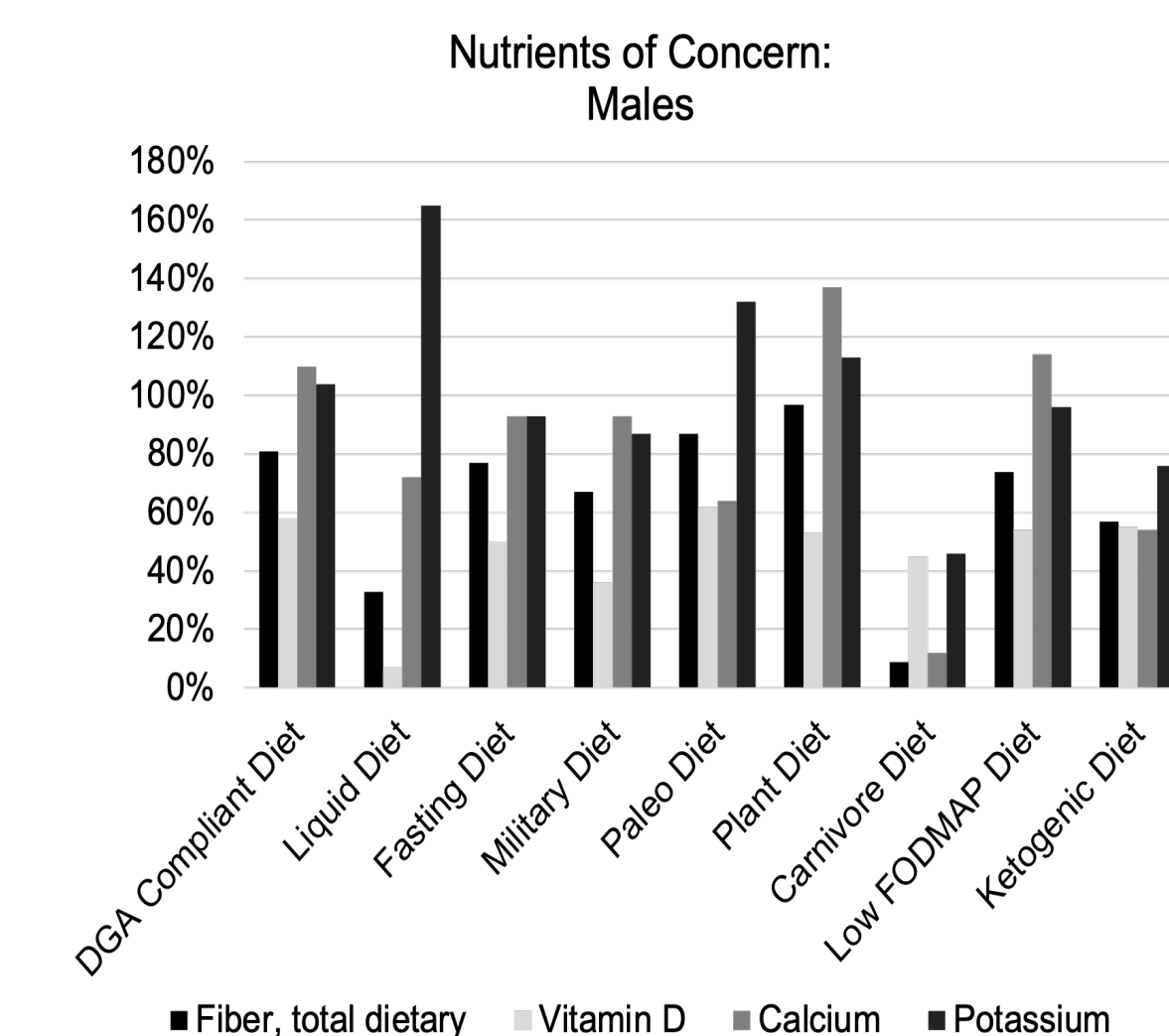


Figure 2. Nutrients of Concern: Males Each fad dietary pattern was compared to the RDAs were used as the standard where the RDA for fiber, Vitamin D, calcium, and potassium were 38g, 15mcg, 1,000mg, and 3,400mg, respectively. The figure above shows the percentage of attainment of the RDA per nutrient of concern.

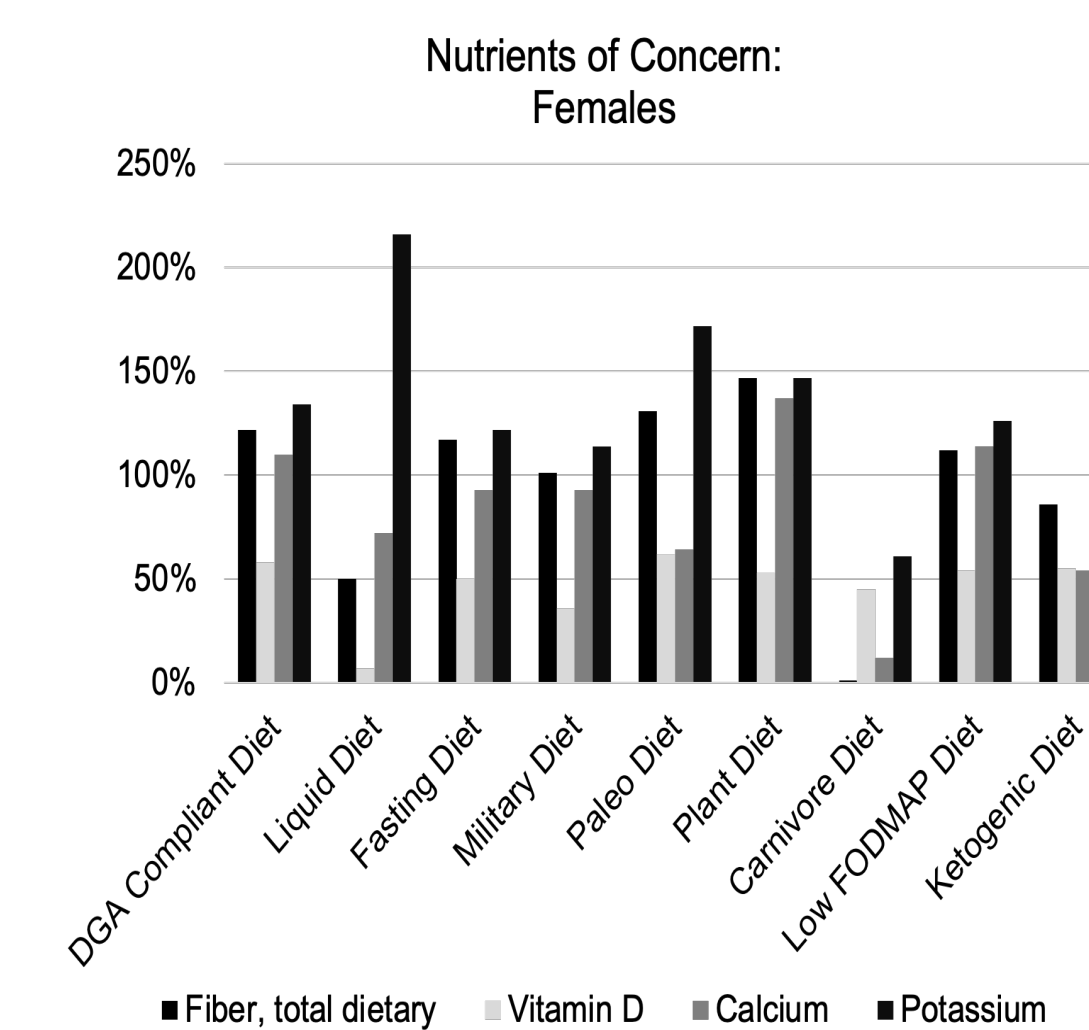


Figure 3. Nutrients of Concern: Females Each fad dietary pattern was compared to the RDAs were used as the standard where the RDA for fiber, Vitamin D, calcium, and potassium were 25g, 15mcg, 1,000mg, and 2,600mg, respectively. The figure above shows the percentage of attainment of the RDA per nutrient of concern.

Conclusions

- Some popular “fad” dietary patterns have the potential to achieve high dietary quality (HEI scores >80) when carefully planned to follow the DGAs, potentially achieving dietary quality scores that are higher than the current population average.
- There are many ways to achieve a high-quality diet across many different dietary patterns, providing opportunities for improving dietary quality, while “meeting people where they are,” even when dietary preferences may not been seen as health promoting.

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