

A scoping review of approaches used to develop plant-based diet quality indices

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Plant-based diets are growing in popularity and play a key role in healthy and sustainable dietary patterns. However, a variety of definitions for plant-based diets have been used in research.⁽¹⁾ To assess the diversity of foods that comprise a plant-based diet, studies have used diet quality indices to measure these in one comprehensive score.⁽²⁾ A review of these indices is necessary to identify the critical features of existing tools and identify their strengths and weaknesses to be able to make recommendations for future research in this area. Hence, this scoping review aims to synthesise the literature on plant-based diet quality indices by examining their 1) basis for development, 2) scoring methodology and 3) validity. MEDLINE Complete, CINAHL complete and Global Health databases were systematically searched from 1980 to 2021. Cohort, case control and cross-sectional studies were included if they were conducted in adults ≥ 18 years old, assessed a plant-based diet using an *a priori* methodology, and quantified dietary intake into a numerical value. Articles were excluded if the index contained non-food components or were conducted among pregnant/lactating people. Eighty-seven articles were included from the electronic and hand searching of reference lists. The most commonly used indices across these 87 articles were the healthful ($n = 36$), overall ($n = 25$) and unhealthy plant-based diet indices ($n = 27$)⁽³⁾ and the pro-vegetarian food pattern ($n = 15$).⁽⁴⁾ In total, 33 unique plant-based diet quality indices were identified between 2007 to 2021. Most plant-based diet quality indices used epidemiological evidence for associations between individual foods and health outcomes as the basis for their development ($n = 17$), while others used the EAT-Lancet planetary health diet ($n = 6$), country-specific dietary guidelines ($n = 5$), or foods from traditional dietary patterns ($n = 5$). The number of food groups included in an individual index ranged from three to 36, with the most common food groups being fruits ($n = 27$), vegetables ($n = 24$, and legumes ($n = 19$). Thirteen indices further divided food groups into subgroups, including healthy or unhealthy foods ($n = 6$), plant- or animal-based foods ($n = 5$), or positive or negative foods ($n = 4$). The most prevalent scoring methodologies included categories of intake ($n = 10$), diet-specific cut-offs ($n = 8$), age and sex-specific cut offs ($n = 6$), and frequency of food intake ($n = 5$). The most common validation methods used were construct validity ($n = 16$), reliability ($n = 11$) and criterion validity ($n = 4$). This review highlights the diversity of approaches used in the development, scoring and validation of plant-based diet quality indices in recent decades. Outcomes from this review can assist researchers to identify the most appropriate indices to use for specific research questions and contexts and will inform the future refinement of plant-based diet quality indices.

References

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