



How appropriate and valid are diet quality index tools for use in Australian contexts? A systematic review

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Background & Aim

- Diet quality indices (DQIs) are tools used to evaluate the overall diet quality of populations and intervention groups against dietary guidelines or known healthy dietary patterns.
- This review aimed to evaluate DQIs and their validation processes to facilitate decision-making in the selection of appropriate DQIs for use in Australian contexts.

National Dietary Guidelines	RESIDE Dietary Guidelines Index, Simple RESIDE Dietary Guideline Index 1 & 2, Australian Recommended Food Score, Healthy Eating Index for Australians 2013, Total Diet Score, Dietary Guideline Index 2013, Aussie-Diet Quality Index, Dietary Guidelines Adherence Index 2015, Healthy Dietary Habits Index, Diet Quality Index, Healthy Eating Index 2015, US Healthy Food Diversity Index
Mediterranean Diet	Mediterranean Diet and Culinary Index, Mediterranean Diet Score, MEDI-LITE, MEDI-QUEST, Mediterranean Diet Serving Score, EVIDENT Diet Index, Mediterranean Diet Adherence Score, Mediterranean-Style Dietary Pattern Score
Others	Diet Quality Tool, Dietary Approach to Stop Hypertension-Quality, Elderly Dietary Index, Alternative Healthy Eating Index 2010, Dietary Risk Assessment, Dietary Screening Tool

Table 1: DQIs retrieved from systematic search

Methods

- A search of CINAHL, PubMed and Scopus electronic databases was conducted for studies published between January 2010 – May 2020, that used a **validated DQI, measured >1 dimension of diet quality** and was **applicable to the Australian context**.
- Data on constructs, scoring, weighting and validation frameworks were extracted and summarised.
- The quality of the validation process was evaluated using COSMIN Risk of Bias and Joanna Briggs Appraisal checklists.

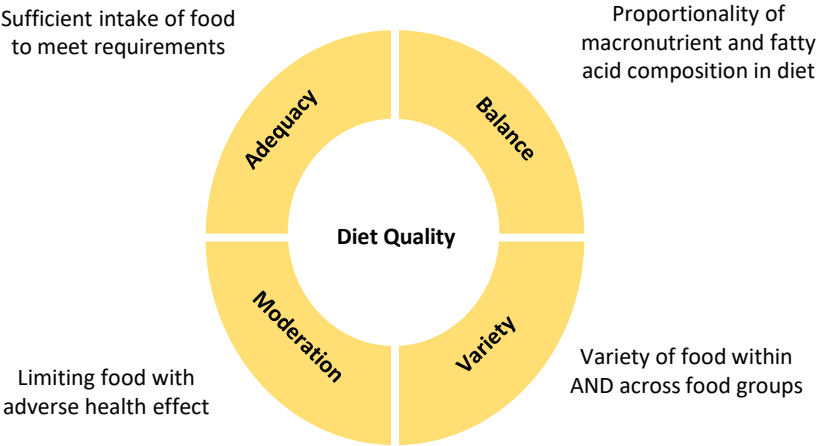


Figure 1: Dimensions of diet quality

Results

- 27 DQIs identified from the review (Table 1).
- Extensiveness of the validation process varied widely across and within categories. Construct validity was the most strongly assessed measurement property, while evidence regarding measurement error was frequently inadequate.
- Total Diet Score, Dietary Guidelines Adherence Index 2015, Healthy Eating Index 2015, Mediterranean Diet Adherence Score, Mediterranean Style Dietary Pattern Score, Alternative Healthy Eating Index 2010 and Dietary Risk Assessment appeared to be more robust than others. However, researchers will still need to understand their limitations and interpret the results with caution.

Conclusion: DQIs should capture **multiple dimensions of diet quality**, possess a **reliable weighting and scoring system**, and demonstrate **adequate evidence** in their validation framework to support use in the intended context.

When using DQIs, researchers need to understand the limitations DQI’s and interpret their results with care. Future research on DQIs is indicated to improve evaluation of measurement error, external validity and reliability.