

Advancing evidence-based dietary assessment in Canada to enhance cancer prevention and survivorship research

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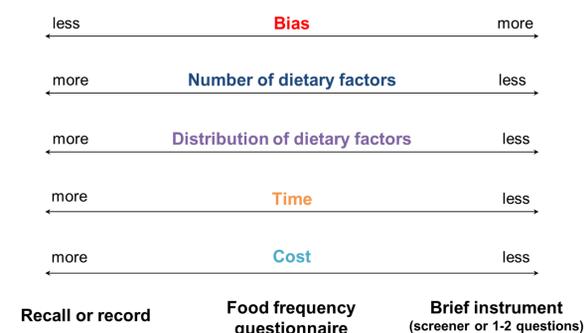
SUMMARY

- **Background:** Our understanding of the influence of diet on cancer and of strategies to reduce the cancer burden through dietary means is limited, in part due to challenges in collecting robust dietary data in cohort studies and other nutrition and health research.
- **Objective:** To examine approaches to assessing dietary intake in Canadian research as a foundation for action to promote rigorous dietary assessment practices.
- **Methods:** Scoping review of studies that included self-report measures of diet among healthy Canadian adults and were published between 2009 and 2014.
- **Results:**
 - Examination of 95 studies that included at least one measure of dietary intake indicates a tendency toward the use of less detailed instruments, including food frequency questionnaires and screeners.
 - In many cases, tools have not been tailored to nor validated for the Canadian population.
 - Consideration of bias in dietary intake data is not a major focus in interpretation and discussion of results.
- **Discussion:**
 - Bias in dietary intake data collected in epidemiologic and intervention studies may be substantial, posing a barrier to our understanding of the diet-cancer nexus.
 - Concerted strategies to promote the use of more robust dietary assessment methodologies across a range of research studies are fundamental to the identification of evidence-based policies and programs to improve diet and reduce cancer risk among the Canadian population.

BACKGROUND

- Despite decades of research, our understanding of the influence of diet on cancer risk and survival, as well as strategies to reduce risk through dietary means, remains limited.
- One challenge to advancing this evidence base is bias in dietary measures used in nutrition and health research.
 - Choosing a dietary assessment instrument can involve trade-offs between data quality and respondent and researcher burden (Fig. 1).
 - Self-report dietary assessment tools are typically the instruments of choice.
 - Data collected using self-report tools contain bias.
 - Bias varies across instruments and can be mitigated through analytic strategies.

Figure 1: Key characteristics of dietary assessment instruments, including degree of bias



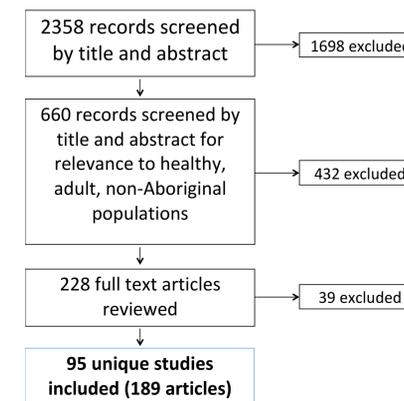
OBJECTIVE

- To provide a foundation for action to improve dietary assessment in research relevant to cancer and other chronic diseases, a scoping review was undertaken to characterize the tools currently used to measure diet in Canadian nutrition and health studies.

METHODS

- The research databases Medline, PubMed, PsycINFO and CINAHL were searched using keywords selected to capture Canadian research published between August 2009 and August 2014 that included an assessment of dietary intake (Fig. 2).

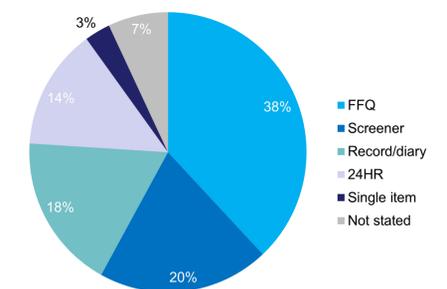
Figure 2: Overview of scoping review search and screening process



RESULTS

- 189 articles included self-report dietary data for healthy Canadian adults, representing 95 studies.
- Tendency toward the use of frequency questionnaires and screeners (Fig. 3).
 - Tools included those developed for or adapted to the Canadian context but many originated elsewhere.
 - Some tools previously 'validated' but most not tested in the specific population.
 - Little discussion of potential impact of bias.

Figure 3: Dietary assessment tools used in Canadian research with healthy adults (n=95 studies)



DISCUSSION

- Concerted efforts are needed to promote the use of the least-biased measures possible to capture diet.
- Improved dietary assessment may be facilitated by:
 - Technological advances that allow for the collection of detailed dietary data at low cost.
 - Improved accessibility of analytic techniques to correct for bias in dietary data.

THE PARTNERSHIP FOR ADVANCING NUTRITION AND DIETARY ASSESSMENT IN CANADA (PANDA-C) {Twitter: @diet_assess_CDA}

This work is part of a larger effort by PANDA-C, which aims to bring together researchers, knowledge users and other stakeholders to support the evolution of nutrition and dietary assessment in Canada, with a long-term goal of promoting the use of valid and reliable assessment measures and strategies in Canadian research.

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