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Instruments and indicators for assessing organisational food environments: a scoping review protocol

Ana Beatriz Coelho de Azevedo,[1] Cintia Chaves Curioni ,[2] Daniel Henrique Bandoni,[3] Daniela Silva Canella [4]

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[1]Postgraduate Program in Food, Nutrition and Health, Rio de Janeiro State University, Rio de Janeiro, Brazil
[2]Department of Social Nutrition, Rio de Janeiro State University, Rio de Janeiro, Brazil
[3]Center of Practices and Research in Nutrition and Collective Food Services, Federal University of Sao Paulo, Sao Paulo, Brazil
[4]Department of Applied Nutrition, Rio de Janeiro State University, Rio de Janeiro, Brazil

Correspondence to
Professor Daniela Silva Canella; daniela.canella@uerj.br

ABSTRACT

Introduction Many studies have explored the food environment to characterise it and understand its role in food practices. Assessment of the organisational food environment can contribute to the development of more effective interventions to promote adequate and healthy eating. However, few instruments and indicators have been developed and validated for assessing this type of setting. The systematisation of those can be useful to support the planning of future assessments and the development of wide-ranging instruments. This study aims to conduct a scoping review to systematise evidence on instruments and indicators for assessing organisational food environments.

Methods and analysis This scoping review was planned according to the methodological framework for scoping reviews proposed by Arksey and O'Malley and subsequently enhanced by Levac *et al*. For the report of the review, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses—Extension for Scoping Reviews (PRISMA-ScR) checklist and guidelines will be used. The search will be conducted using PubMed, Embase, Web of Science, PsycINFO, Scopus and Google Scholar databases. The studies to be included were required to have been published in peer-reviewed journals since January 2005. No geographical, population or language restrictions will be applied given the desired breadth of the review. Two researchers will select the articles and extract the data independently. The conceptual model proposed by Castro and Canella will guide the data extraction and analysis. The results will be presented with narrative synthesis for the extracted data accompanying the tabulated and charted results.

Ethics and dissemination This study is based on the analysis of published scientific literature and did not involve patients, medical research, or any type of personal information; therefore, no ethical approval was obtained for this study. The results of this scoping review will be submitted for publication in an international peer-reviewed journal, preferably open access.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The proposed scoping review is the first to provide an overview of the instruments and indicators for assessing organisational food environments.
⇒ Data extraction and analysis will use a comprehensive definition and framework of organisational food environments by Castro and Canella that considers characteristics beyond the availability of food and beverages. The definition and framework include components such as the institutional level, internal level of eating spaces, decisional level, surroundings and different dimensions.
⇒ By focusing on studies that evaluated workplaces, universities and hospitals/healthcare units, organisational contexts with adults as subjects, the study will not capture all the literature on instruments and indicators of the organisational food environment.
⇒ As a potential limitation, it is important to consider that despite our comprehensive approach, it is essential to acknowledge the persistent challenge of publication bias in scoping reviews.

INTRODUCTION

Malnutrition is one of the major health problems worldwide, including obesity, undernutrition and dietary risks for non-communicable diseases (NCDs). Although the prevalence of obesity has been increasing worldwide over the past four decades, being higher among adults, undernutrition has been observed, especially in low-income and middle-income countries.[1]

The literature shows that interventions focused on individuals are not sufficient to deal with epidemiological scenarios. Many studies have sought to explore the food environment to define and characterise it in addition to understanding its role in food practices to contribute to the creation of healthy food environments and the prevention of obesity and NCDs. The food environment can be defined as 'the collective physical, economic, policy and sociocultural surroundings, opportunities and conditions that influence people's food and beverage choices and nutritional status'[2] and can be categorised into community, organisational, consumer and information food environments.[3]

The organisational food environment can be defined as 'a place where food is sold or

supplied to workers, students or other members working in institutions and organisations'[4] and is generally available to defined groups rather than the general population.[3] It includes schools, universities, companies, public services, hospitals, prisons, civil society associations and their respective food centres (cafeterias, kiosks and food vending machines).[4] This environment can play a strategic role in health promotion. However, the organisational food environment is still little explored and in a limited manner.[5–7] Research on food environments continues to grow but the conceptual model published in 2022 argues that more research is needed specifically to assess the organisational food environment and that should go beyond the availability of food and beverages in spaces,[8] which is the most frequently assessed element using instruments developed for the consumer food environment.[6 7]

Since the assessment of organisational food environments can contribute to the development of more effective interventions for the promotion of adequate and healthy eating in this setting, adequate instruments and indicators are needed. To identify if there are instruments and indicators developed and validated for the evaluation of this type of environment, this study aims to conduct a scoping review to systematise evidence on instruments and indicators for assessing organisational food environments.

METHODS AND ANALYSIS

This is the protocol of a scoping review that aims to identify the existing instruments and indicators for assessing organisational food environments as well as the different components, dimensions and items assessed by them, taking into account the elements presented in the conceptual model proposed by Castro and Canella.[8] Using a systematic search of the literature, the scoping review aims to identify the nature and extent of evidence on a given theme to obtain a mapping of the literature. One of the purposes of conducting a scoping review is to identify the types of evidence available in a given field.[9 10]

For the planning of this review, it has been used the methodological framework for scoping reviews proposed by Arksey and O'Malley[11] and subsequently enhanced by Levac *et al*.[12] The Preferred Reporting Items for Systematic Reviews and Meta-Analyses—Extension for Scoping Reviews (PRISMA-ScR) checklist and guidelines will be used to report the review.[13]

The main research question of this review is 'What instruments and indicators are available for assessing organisational food environments?'. Additional research questions are 'What settings were studied?'; 'What elements of organisational food environments have been studied in different types of settings?'; and 'Have the psychometric properties of the instruments and indicators been evaluated?'.

Inclusion and exclusion criteria

This scoping review will include studies published in peer-reviewed journals from January 2005 onwards because it was the year of publication of the conceptual model of a healthy nutrition environment developed by Glanz *et al*,[3] an important starting point for studies on the food environment. No language restrictions will be applied, given the desired breadth of the review.

Eligible studies will be selected according to the population-concept-context (PCC) framework recommended by the Joanna Briggs Institute.[14] As population, it will be considered the settings (universities, hospitals/healthcare units and workplaces), components (institutional level, internal level of eating spaces, decisional level and surroundings) and eating spaces assessed in them (such as commercial and non-commercial services and vending machines)[8]; as concept, it will be considered all studies that evaluated at least one of the different dimensions of the organisational food environment (availability, accessibility, affordability, quality, food and nutrition information, and promotion of foods, beverages, and culinary preparations and the availability, acceptability, convenience, ambiance and infrastructure of the eating spaces)[8]; and about the context, no geographical, or population restrictions will be applied. To have greater coverage, we will consider both methodological studies and studies that evaluated the organisational food environment as part of their objective.

As exclusion criteria, the following will be applied: (1) studies that did not measure the organisational food environment and (2) measured settings like schools, prisons and recreational facilities.

We chose to focus on workplaces, universities and hospitals/healthcare units because, despite the potential differences between these settings, they have many similarities, being one of them the public of adults/workers. Hospitals/healthcare units can be considered from the perspective of the patients but also from the workers who normally spend long hours in these settings.

The option not to include studies that measured the food environment in schools, prisons and recreational facilities is related mainly to the public and their specificities, such as young age, low autonomy of individuals (in the case of schools and prison) and length of permanency in the place (very short in the case of recreational facilities and very long in prisons), which probably influence the characteristics of the environment. Additionally, schools have so many specificities that specific models have been developed for them.[15 16]

Search strategy

The search will be conducted in the databases: PubMed, Embase, Web of Science, PsycINFO, Scopus and Google Scholar. The search on Google Scholar can be considered as a strategy to assess grey literature, since this is a comprehensive academic search engine, allowing the identification of different documents of assessments of food environments. The reference lists of existing

Table 1 Search strategy for Pubmed

Database	Search terms
PubMed	1. "food environment" OR "nutrition environment" OR "eating environment" OR "foodscape" AND [all fields]
	2. "measure" OR "assess" OR "instrument" OR "questionnaire" OR "scale" OR "tool" OR "validity" OR "reproducibility" OR '"reliability" OR '"psychometric" OR '"psychometry" OR "indicator" OR '"score" AND [All Fields]
	3. "organization" OR "workplace" OR "worksite" OR "company" OR "corporation" OR "hospital" OR "healthcare" OR "university" OR "college" OR "post secondary" OR "postsecondary institutions" OR "tertiary-education" OR "campus"

primary studies, reviews and documents will be checked to identify additional references.

Search terms were defined based on previous studies,[5–7] a literature search on the topic and the experience of the researchers. Table 1 presents the search terms and strategies used for PubMed in the scoping review. The search strategy will be adapted for each database.

Study selection

One researcher will perform the search through electronic databases and Zotero software will be used for the database organisation of the retrieved results. Duplicate removal and screening will be conducted using Rayyan online software. Two trained researchers will review and select independently the articles by title, excluding those unrelated to the subject of the review. The summaries of selected titles will be analysed to identify those that meet the inclusion criteria. The full texts of selected articles will undergo an assessment for inclusion in this review. If abstracts or articles were found in languages other than English, Portuguese and Spanish, they will be translated using software programmes. Any disagreement during the process will be resolved by consensus among the reviewers or by consulting a third reviewer. The selection process will be presented in the PRISMA-ScR flow diagram.

Data extraction and analysis

The conceptual model proposed by Castro and Canella will be used for data analysis.[8] Although other models include the organisational food environment in their scope, this model is more comprehensive, including components (institutional level, internal level of eating spaces, decisional level and surroundings) and dimensions (availability, accessibility, affordability, quality, food and nutrition information, and promotion of foods, beverages and culinary preparations and the availability, acceptability, convenience, ambiance and infrastructure of the eating space) that go beyond the assessment of food and beverage availability in commercial and non-commercial establishments.[8] For articles that meet the inclusion criteria, data extraction will be conducted using Google Forms. A standardised data extraction form will be developed and pilot tested on the first 10 selected articles and then refined.

Two reviewers will extract data independently, using a standardised form, considering (1) reference, including the year of publication; (2) country; (3) sample; (4) study objectives; (5) study design; (6) setting (evaluated the organisational food environment in universities, hospitals/healthcare units or workplaces); (7) components of the food environment and eating spaces assessed; (8) instruments, number of items and methodologies employed to measure the food environment; (9) measured dimensions of eating spaces (availability, accessibility, affordability, quality, food and nutrition information, and promotion of foods, beverages and culinary preparations and the availability, acceptability, convenience, ambiance and infrastructure of the eating space); (10) limitations and gaps pointed out by the authors; (11) reported validity and reliability of measures; and (12) the existence of summary measures or healthiness indicators. Disagreements arising from the literature review will also be resolved by consensus.

Data synthesis

Initially, a summary of the studies will be synthesised narratively by organisation type (universities, worksites and hospitals/healthcare units), to provide a comparison within and across types, through summary tables with the characteristics of the settings. The synthesis will provide an overview of the studies, with specific subanalyses of relevant features such as components of the food environment and measured dimensions of eating spaces. The key differences and similarities between the instruments and indicators will be explored using a more detailed analysis. The instruments and indicators will be also described for the reliability and validity of the measures.

Patient and public involvement

None.

ETHICS AND DISSEMINATION

Ethical approval was not obtained for this study. This study was based on the analysis of published scientific literature and did not involve patients, medical research or any type of personal information. The results of this scoping review will be submitted for publication to an international peer-reviewed journal, scientific meetings and conferences on public health and nutrition research.

Contributors ABCdA formulated the research questions, designed the protocol and wrote the article. CCC and DHB designed the protocol, critically reviewed the article and approved the final version. DSC formulated the research questions, designed the protocol, critically reviewed the article and approved the final version.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

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ORCID iDs
Cintia Chaves Curioni http://orcid.org/0000-0002-5160-9567
Daniela Silva Canella http://orcid.org/0000-0001-9672-4983

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