

Contributions of Food Banks to Food and Nutritional Security: A Systematic Review Protocol

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ADMINISTRATIVE INFORMATION

Support - Not applicable.
Review Stage at time of this submission - Data extraction.
Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 April 2025 and was last updated on 11 April 2025.

INTRODUCTION

Review question / Objective The objective of this systematic review is to identify whether food banks contribute to the promotion of food and nutritional security. To this end, the proposed systematic review will address the following question: Do food banks contribute to the promotion of food and nutritional security for their beneficiaries, according to the dimensions of access, quantity, quality, diversity, and sustainability?

Rationale Food and nutritional insecurity remains one of the greatest global challenges, impacting millions of people across various socioeconomic contexts (FAO, 2022). In this context, food banks play a crucial role by redistributing surplus food to vulnerable populations, contributing to both reducing food waste and increasing access to adequate food.

Despite the recognized importance of food banks, their specific contribution to the different dimensions of Food and Nutritional Security (FNS) — access, quantity, quality, diversity, and sustainability — is still underexplored in academic literature (Silva et al., 2020). Over the past decades, literature on food and nutritional security has advanced considerably, emphasizing the importance of public policies, food assistance programs, and sustainable development strategies (Maluf et al., 2015; Belik, 2018). However, most existing studies address the role of food banks in a fragmented manner, predominantly focusing on reducing food waste and providing food to vulnerable groups, without a systematic and comprehensive assessment of their impact on the food and nutritional security of beneficiaries (Moura et al., 2019). The lack of comprehensive studies evaluating how food banks impact each of these dimensions represents a knowledge gap that needs to be filled.

There is a notable lack of in-depth investigations analyzing the nutritional quality of distributed food, the continuity of supply, the sustainability of initiatives, and their effectiveness in ensuring adequate food. Therefore, conducting a systematic review that synthesizes existing evidence and provides a broad view of the contribution of food banks to FNS is essential.

From an academic perspective, this research will contribute to expanding knowledge by consolidating empirical data that can support future investigations and scientific debates on the topic. Additionally, the review will provide input for the formulation of more effective and evidence-based public policies, promoting greater integration between food banks and other food security initiatives.

For civil society, especially food bank managers, non-governmental organizations, and public policy makers, the findings of this research will offer valuable information to optimize food distribution processes, strengthen strategies that ensure nutritional quality and supply stability, and enhance the impact of these initiatives. The systematic analysis will allow for the proposal of guidelines to improve food bank management, promoting greater efficiency and sustainability in actions aimed at reducing food insecurity.

By filling this knowledge gap and providing concrete evidence on the role of food banks in food and nutritional security, this study will have relevant practical implications, contributing to the development of more inclusive and sustainable strategies to combat hunger and malnutrition. Thus, the research will not only strengthen the theoretical and empirical foundation on the subject but also support the implementation of more effective and impactful actions to promote the human right to adequate food.

Condition being studied According to Law No. 11,346 of September 15, 2006 – Organic Law on Food and Nutritional Security (LOSAN), Food and Nutritional Security (FNS) refers to ensuring that all people have regular and permanent access to food in adequate quantity and quality, without compromising other essential needs, based on health-promoting food practices that are environmentally, culturally, economically, and socially sustainable (Brazil, 2006). Promoting FNS remains one of the greatest global challenges, with food banks being potential promoters. This systematic review will investigate the contributions of food banks to the dimensions of FNS, addressing various factors and events of interest, such as: access to food by vulnerable populations; quality of donated food; sufficiency of food quantity; food variety contributing to more

balanced diets; and sustainability by mitigating food waste and preventing organic food from being sent to landfills, thus reducing greenhouse gas emissions.

METHODS

Search strategy Regional Portal of the Virtual Health Library (VHL): ("Food Bank") AND ("Food Insecurity" OR "Food Security" OR "Right to Food" OR "Hunger" OR "Food Loss and Waste" OR "Sustainability" OR "Sustainable Development" OR "Sustainability Indicators" OR "Nutritional Status" OR "Access to Healthy Foods" OR "Availability of Healthy Foods") AND (year_cluster:[2014 TO 2024]) AND instance:"regional"

Journal Portal of the Coordination for the Improvement of Higher Education Personnel (CAPES PERIODICALS): "Food Bank" AND "Food Insecurity" OR "Food Security" OR "Right to Food" OR "Hunger" OR "Food Loss and Waste" OR "Sustainability" OR "Sustainable Development" OR "Sustainability Indicators" OR "Nutritional Status" OR "Access to Healthy Foods" OR "Availability of Healthy Foods"

Latin American and Caribbean Literature in Health Sciences (LILACS): ("Food Bank") AND ("Food Insecurity" OR "Food Security" OR "Right to Food" OR "Hunger" OR "Food Loss and Waste" OR "Sustainability" OR "Sustainable Development" OR "Sustainability Indicators" OR "Nutritional Status" OR "Access to Healthy Foods" OR "Availability of Healthy Foods") AND (year_cluster:[2014 TO 2024]) AND instance:"lilacsplus"

PUBMED: ("Food Insecurity" OR "Food Security" OR "Right to Food" OR "Hunger" OR "Food Loss and Waste" OR "Sustainability" OR "Sustainable Development" OR "Sustainability Indicators" OR "Nutritional Status" OR "Access to Healthy Foods" OR "Availability of Healthy Foods") AND ("Food Bank") Publication date: 2014-2024

(SCIENCE DIRECT): "Food Bank" AND "Food Insecurity" OR "Food Security" OR "Right to Food" OR "Hunger" OR "Food Loss and Waste" OR "Sustainability" OR "Nutritional Status" OR "Access to Healthy Foods" Year: 2014-2024 Title, abstract, keywords: food bank

Scientific Electronic Library Online (SCIELO.ORG): ("food bank") AND ("Food Insecurity") OR ("Food Security") OR ("Right to Food") OR (Hunger) OR ("Food Loss and Waste") OR (Sustainability) OR ("Sustainable Development") OR ("Sustainability Indicators") OR ("Nutritional Status") OR ("Access to Healthy Foods") OR ("Availability of Healthy Foods")

The terminological mapping was carried out using the Health Sciences Descriptors (DeCS) of the

Virtual Health Library; the terms that were not included were included due to the object of study of this review.

Participant or population Food bank beneficiaries, including adults, the elderly, youth, children, and adolescents of any ethnicity, experiencing social vulnerability, including food and nutritional insecurity.

Intervention Food banks that distribute food to socially vulnerable populations.

Comparator Not applicable.

Study designs to be included Observational studies (cross-sectional or longitudinal, with or without control group) and clinical trials (randomized or not), conducted between 2014 and 2024, in Portuguese, English, or Spanish.

Eligibility criteria Studies conducted between 2014 and 2024, in Portuguese, English, or Spanish.

Information sources Regional Portal of the Virtual Health Library (VHL), Latin American and Caribbean Health Sciences Literature (LILACS), Scientific Electronic Library Online (SciELO), Science Direct, CAPES Journal Portal, PubMed Central.

Main outcome(s) The different dimensions of food and nutritional security among food bank beneficiaries will be analyzed, including access, quantity, quality, diversity, and sustainability.

Additional outcome(s) Not applicable.

Data management The eligibility of studies will be assessed by two authors according to the defined inclusion criteria (conducted between 2014 and 2024, in Portuguese, English, or Spanish) through the reading of titles and abstracts. In case of doubt regarding a study's eligibility, the full text will be reviewed. In the event of disagreement between the authors, a third author will be consulted. Data will be organized using Excel and reviewed by a third reviewer.

Quality assessment / Risk of bias analysis The methodological quality of the included studies will be assessed using tools appropriate to each study design. For observational quantitative studies, the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Analytical Cross-Sectional Studies will be applied (or another JBI tool suitable for the specific study type, when applicable). For

qualitative studies, the JBI Critical Appraisal Checklist for Qualitative Research will be used.

Two independent reviewers will carry out the quality appraisal separately. Any disagreements will be resolved through discussion or by consulting a third reviewer to reach consensus. The results of the quality assessment will be presented in tables and summarized narratively.

This assessment will inform the sensitivity analysis and support the critical interpretation of the review findings, highlighting the level of confidence that can be placed in the results based on the methodological rigor of the included studies.

Strategy of data synthesis Selected studies will be categorized according to the review's outcomes of interest using Excel, followed by descriptive analysis to identify study participants (population and sampling), study designs, locations and years, outcomes, authors' conclusions, and reported methodological limitations. Selected studies will be discussed using a theoretical framework on food banks and food and nutritional security.

Data synthesis will involve qualitative analysis only. The results will be synthesized regarding: year and country of publication, study design (quantitative or qualitative), sample, reported effects on food and nutritional security, methods used to assess FNS, and limitations identified by the authors.

Subgroup analysis None.

Sensitivity analysis A sensitivity analysis will be conducted to assess the robustness of the review findings. For quantitative studies, additional analyses will be performed by excluding studies with high risk of bias, according to the methodological quality assessment.

For qualitative studies, sensitivity analysis will involve excluding studies with lower methodological quality and assessing their influence on the development of themes or analytical categories. The consistency of key qualitative findings will be examined to determine whether they are supported by multiple data sources.

In the integration of quantitative and qualitative evidence, we will assess whether the exclusion of one type of study (qualitative or quantitative) substantially alters the overall interpretations of the review. The results of the sensitivity analysis will be reported narratively and used to support the discussion on the reliability and strength of the review conclusions.

Language restriction Only studies in Portuguese, English, and Spanish.

Country(ies) involved Brazil.

Keywords Food Bank; Food Insecurity; Food Security; Right to Food; Hunger; Food Loss and Waste; Sustainability; Sustainable Development; Sustainability Indicators; Nutritional.

Dissemination plans Publication in a journal and presentation of results to public managers.

Contributions of each author

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