FOOD AND NUTRITION IN COLLECTIVE HEALTH
DOI: 10.12957/demetra.2022.66149

DEMETRA
Alimentação, Nutrição & Saúde

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The Brazilian food insecurity scale: a proposal adapted for traditional people and communities

Escala brasileira de insegurança alimentar: proposta adaptada para povos e comunidades tradicionais

Abstract

Introduction: The literature has depicted the vulnerability to food insecurity (FI) faced by traditional communities and peoples (TCPs). In Brazil, the Brazilian Food Security Scale (EBIA) is considered the main instrument to assess FI. However, its focus on income for access to food does not include TCPs, which are culturally differentiated groups. ***Objective***: This paper aims to develop a critical-reflexive analysis of the applicability of EBIA and to propose an adapted version of the reduced EBIA for assessing FI in TCPs. ***Methods***: This is an exploratory study based on an empirical and critical-reflexive analysis. An adaptation of the reduced EBIA was proposed to meet the peculiarities of the TCPs. The proposed version considers characteristics related to the form of food acquisition by these social groups and detaches itself from the theoretical-methodological approach of EBIA, in which income is necessary to obtain food. ***Results***: An adaptation of the reduced EBIA was developed to consider the customs and needs of the TCPs. The result was a concise instrument, easy to apply, and with terminologies suitable to the studied public. Terms associated with the absence of meals and/or food acquisition, such as "buy" and "money," were replaced by others more familiar to the TCPs. ***Final considerations***: The development of a specific instrument to evaluate the FI of the TCPs or even the EBIA reformulation is recommended to contemplate the particularities of these groups and bring more reliable FI results that can subsidize appropriate public policies to meet the health needs of this segment of society.

Keywords: Food and nutrition security. Social vulnerability. Population groups. Ethnic groups.

Resumo

Introdução: A literatura tem retratado a vulnerabilidade à insegurança alimentar (IA) enfrentada por povos e comunidades tradicionais (PCTs). No Brasil, a Escala Brasileira de Segurança Alimentar (EBIA) é tida como o principal instrumento para avaliação da IA, mas seu enfoque centrado na renda para acesso aos alimentos não contempla os PCTs, que são grupos culturalmente diferenciados. ***Objetivo***: Este artigo tem como objetivos desenvolver uma análise crítico-reflexiva sobre a aplicabilidade da EBIA e

propor uma versão adaptada da EBIA reduzida para avaliação da IA em PCTs. ***Métodos***: Estudo exploratório a partir de uma análise empírica e crítico-reflexiva. Foi proposta uma adaptação da EBIA reduzida para atender às singularidades dos PCTs. A versão proposta leva em conta características relativas à forma de aquisição dos alimentos por esses grupos sociais e desprende-se do enfoque teórico-metodológico da EBIA, em que há necessidade da renda para obtenção dos alimentos. ***Resultados***: Foi elaborada uma adaptação da EBIA reduzida que levasse em consideração os costumes e necessidades dos PCTs. Obteve-se um instrumento conciso, de fácil aplicação e terminologias apropriadas ao público estudado. Termos que associavam a ausência de realização de refeições e/ou de aquisição de alimentos, como "comprar" e "dinheiro", foram substituídos por outros, que fossem mais familiares aos PCTs. ***Considerações finais***: Preconiza-se a elaboração de um instrumento específico para avaliação da IA de PCTs ou até mesmo a reformulação da EBIA, com o propósito de contemplar as particularidades desses grupos e trazer resultados de IA mais fidedignos, que possam subsidiar políticas públicas adequadas para atender as necessidades de saúde desse seguimento da sociedade.

Palavras-chave: Segurança alimentar e nutricional. Vulnerabilidade social. Grupos populacionais. Grupos étnicos.

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INTRODUCTION

It is the right of every human being to have adequate and healthy food, which must be guaranteed through food and nutrition security. In Brazil, this term is defined by Law 11,346 of September 15, 2006, Article 3. In summary, its guarantee consists of having regular and permanent access to quality food, in sufficient quantity, based on food practices that promote health, respect cultural diversity, and are socially, economically, and environmentally sustainable.[1]

Its broad concept allows for the understanding that food as a human right is related to other fundamental rights, such as health, housing, education, work, participation, and information, making it difficult to measure and monitor food security (FS) in different populations.[2]

Furthermore, social and cultural factors influence various social groups in different ways in terms of how they acquire, store, and consume food, factors that, given the differences that exist in a country as large as Brazil, must be considered in the search to evaluate FS conditions in multiple contexts.[3]

Considering that healthy eating is a possibility when there is availability and access to food in a sufficient quantity and quality for all people, it must be considered that this availability can occur in distinct ways – for example, from production for self-consumption, purchases in commercial establishments, donations,[4] or even exchanges between families.

These aspects are relevant to consider since, although there is a predominance of families and individuals who acquire food from commerce and are monetarily dependent, in Brazil, there are traditional peoples and communities (TCPs) who maintain distinct characteristics of food organization, acquisition, and consumption.

The TCPs are culturally differentiated groups compared to the dominant national society. They have their own social, cultural, and economic conditions and maintain their specific forms of social organization and relationships with the territory and the environment in which they live.[5]

The relationship with food is usually based on cultivation or vegetal extraction, using natural and renewable resources when it comes to food from the land, breeding, hunting, or fishing for food of animal origin, and respecting the local ecosystem. In this context, social organization is characterized by kinship and crony relationships, commonly based on customs of exchange and solidarity among families and local groups.[6]

Such particularities of the TCPs make it even more challenging to measure food insecurity (FI), which already has complexities and whose distinct factors highlight this phenomenon's interdisciplinary nature and multidimensional character.[2] Used to measure and diagnose FS in the Brazilian population, the Brazilian Scale of Food Security (EBIA) aims to measure dimensions such as access to food, considering that FI occurs when there is limited or uncertain availability or the possibility of having nutritionally adequate and safe food.[7]

EBIA seeks to understand this phenomenon mainly through the viability of food acquisition based on purchasing power since most of the questions (13 out of 14) associate the need to reduce the quantity or suppress some of the meals because there is not enough money to purchase these items.

Given the above, this paper was motivated by the following question: does EBIA meet the diversity of food situations when considering TCPs in Brazil? The article aims to develop a critical-reflexive analysis of EBIA's applicability and to propose an adapted version of the reduced EBIA for FI assessment in TCPs

METHODS

This is an exploratory study based on an empirical and critical-reflexive analysis of assessment instruments for FI in the context of the TCPs. The study proposes a reduced EBIA tailored to these people's unique needs.

EBIA's conceptual and methodological aspects were considered in the structuring of this instrument, as well as characteristics related to the target audience. Variables related to the time and practicality of application, the structure of the questions, and the terminologies used were appreciated.

The proposed version considers characteristics related to the way the TCPs acquire food and departs from EBIA's theoretical-methodological approach, according to which there is a need for income to obtain food, which is not considered a priority for these social groups

Critical reflective analysis

The guiding question of this work, concerning the existence of a diversity of food situations, arose from empirical data and the studies, debates, and reflections mobilized in the scope of the subject Anthropology of Food, taught in the Anthropology Postgraduate Program at the Federal University of Pará (UFPA).

From these initial notes, it was then decided to deepen the search for a theoretical foundation to understand the food situations discussed in the literature concerning the TCPs, as well as the aspects that have already been raised regarding the applicability of EBIA in families of these peoples and communities.

The analysis initially described the aspects considered relevant to support the EBIA adaptation to the TCPs' characteristics and their different forms of food acquisition. Then, notes were presented that justified the need for adaptations to the questions directed to the PCTs to identify the existence of FI

Review of EBIA and prposal of adaptions

Based on empirical data, bibliographic research, and analyses carried out on the theme, the subsequent stage of the work was to adapt the EBIA questions to the PCTs.

Therefore, we chose to use the reduced scale proposal suggested by researchers from Pelotas, Rio Grande do Sul,[8] who found that both the 7 and 5-question scales demonstrated excellent sensitivity, specificity, and agreement regarding the EBIA actual results. Thus, we used the 7-question version, already adopting the previously mentioned recommendations to obtain a simpler and more concise questionnaire format, facilitating its application in the field.

To classify the FI from the instrument developed in this study, we intend to adopt the model conceptualized by Santos et al.,[8] based on the score of the number of positive responses.

We carried out the theoretical elaboration of the initial stage, called the prototypical phase, of a cross-cultural adaptation of EBIA[9] guided by the study of equivalences focused on the semantics of the questions used in the instrument in question and the contextualization and deepening of the aspects of the target population elucidated in this work.

RESULTS

From the critical-reflexive analysis of empirical and literary data, it was possible to develop an adapted shortened version of the EBIA that would consider the customs, needs, and terminologies appropriate to the TCPs.

As previously reported, the instrument developed in this study was based on a reduced version of seven questions proposed by Santos et al.[8] A concise and practical instrument was chosen, besides the primary need for changes in some terminologies used in the EBIA, aiming to adapt it to the TCPs' reality. Chart 1 shows the version adapted for the studied population.

For the adaptation of the questions to the TCPs' reality, it was identified that the terms associated with the absence of meals and food acquisition, such as "buy" and "money," could be replaced by others, possibly more familiar to the TCPs.

Each question was carefully reviewed, and these phrases were then removed to include terms such as "production," "access," and "subsistence."

Chart 1 shows the conformation of the original questions and those used in the new EBIA proposal, with the terminologies (in bold) that are more suitable for the peoples and communities studied

Chart 1. Proposal for a shortened and adapted version of the EBIA to assess food insecurity in traditional peoples and communities 2022

Version proposed by Santos et al. (2014)[8]	Adapted version for TCPs
1. In the past three months, did you worry that you would run out of food in your house before you **were able to buy, receive, or produce more food**?	1. In the past three months, did you worry that you would run out of food in your house before you **could o produce or have access to more food?**
2. In the last three months, did you run out of food before you **had money to buy more**?	2. In the past three months, did you run out of food before you **could produce or access more food**?
3. In the past three months, did you **run out of money** to eat healthy and varied food?	3. In the past three months, have you been **without access to a healthy and varied diet? If yes, what were the reasons?**
4. In the past three months, have you or an adult in your household ever decreased the amount of food at meals or skipped meals because **there was not enough money** to buy food?	4. In the past three months, have you or an adult in your household ever had to cut down on the amount of food you eat or skipped meals because of **problems related to food production or access to food**?
5. In the past three months, have you ever eaten less than you thought **you should because there was not enough money to buy food?**	5. In the past three months, have you ever eaten less than you thought you should because of **problems related to subsistence production or access to food**?
6. 6. In the past three months, have you ever felt hungry but did not eat because you **could not afford to buy enough food**?	6. In the past three months, have you ever felt hungry but did not eat because you **could not access to enough food**?
7. In the past three months, have you or any other adult in your household ever gone a whole day without eating or had only one meal a day **because there was no money to buy food**?	7. In the past three months, have you or any other adult in your household ever gone without food for a day or had only one meal a day because **you ran out of food and had no way to fish, hunt, or harvest native fruits**?

DISCUSSION

Traditional peoples and communities: the conceptions of territory, identity, and food

As verified, the FS assessment in Brazil is carried out through the EBIA. However, when questioning whether this tool can contemplate the particularities inherent to the TCPs, one can identify a strong focus on the need for income to obtain food.

This population has a diversity of practices for obtaining food. This repertoire includes artisanal fishing, vegetal extraction, animal husbandry, hunting, animal collection (shellfish, crabs, insects, among others), and family farming.

Despite the participation of industrialized foods in these communities, the techniques of access, production, and distribution of the foods previously mentioned through labor, along with the practices of exchange and gifts involving food products, have been the main strategies for the existence of these peoples.[10]

These communities, for the most part, are located in rural areas. They make common use of the land and have in reciprocity a principle of existence whose relationship is one of social reproduction, not merchandise. They understand the notion of territory, in addition to the property, as a process built from recognizing the value of the society-nature relationship for work and culture maintenance, where all the subjects' trajectories build this dynamism of territoriality.[11]

Contrary to what is observed in the dominant society, the commercialization of food and, consequently, capital accumulation is not the priority of these social groups. On the contrary, a large part of the production is destined for the families' use, whose process of obtaining, preparing, and consuming traditional foods is considered an identity marker for these people. It is an aspect that, at the same time that it enables culinary richness, is marked by structural limitations that can impact the FS of these communities.[12]

Thus, one can infer that income and economic power are not always strictly necessary to access a varied and healthy diet among traditional peoples since these individuals are responsible for producing and obtaining a significant portion of the food they need for their material and social reproduction based on the understanding that food nourishes not only the physical body but also the soul. These customs characterize the organizational/social system and these people's identity.

In most situations, food production follows a system connecting with nature's time and the management of land and water and is centered on respect for the environment and the principle of good living. In this case, as the essence of life, food becomes something sacred and fundamental and should be within reach of the entire collectivity that makes up a community. In fact, food is not accessible with money or in markets. They are in the backyards, the fields, the forests, the rivers, the seas, and other environments that make up productive spaces.

Traditional peoples and communities and food insecurity

The scientific literature has described the vulnerability to FI faced by TCPs. Studies that assessed FI through the EBIA in these Brazilian communities identified high prevalence rates. Among indigenous people, we observed that 95, 76, and 100% of Kaigang,[13] Teréna,[14] and Guarani-Kaiowá[15] indigenous participants lived in FI. Two studies with Quilombolas found 86.1% of FI in a national census analysis[16] and higher prevalence when comparing Quilombola and non-Quilombola populations.[17]

This scenario reflects a historical process especially marked by geographical, socioeconomic, and environmental factors that significantly impact the living conditions of this population,[18] the territorial and land insecurity, and the negative impacts caused by major so-called development projects in recent decades. Thus, assessing FS in these groups becomes a major public health issue.

Given the above, it is necessary to consider alternative instruments or methodological adaptations to EBIA that contemplate the elements discussed in this work. In this perspective, some questions can be raised: What does FI mean for traditional communities? Would income be the only method capable of reflecting a family's degree of FI? Is it appropriate to use the EBIA, in its original version, to assess FI in the context of traditional peoples and communities?

EBIA and adaptations for the contexts of traditional peoples and communities

According to the research developed by Yuyama and his collaborators,[19] the FS for indigenous communities in the Amazon was more focused on daily possibilities, involving issues such as seasonality, successful hunting, and fishing

activities. Above all, FS was understood as the guarantee of land for planting and consequent consumption and sale of food for survival. Among the indigenous people's speeches, the following stand out: "A good and large area with many plants means food security;" "Food security is when you have much pupunha to eat and sell;" "Do not worry about food in the harvest season because you can eat and sell it."

Thus, the difference in the concept of FI between different social group situations becomes remarkable. While in urban and rural areas, the difficulty in accessing food is often linked to a lack of financial resources,[19] among traditional peoples and communities, this is not always the case, and FI begins to be understood with a new perspective. In this case, income is not the central element to be analyzed since these individuals have methods for obtaining food.

The determinants for FS are access to land, territory, natural resources, and the relationship between human beings and nature. In many situations of land conflicts and lack of guarantee of access and permanence in the land, one of the questions most pointed out by the TCP collectives is: what will we eat without our territory? In other words, money and the market are not the primary sources of access to food, but the territory, whose generous nature, through family work, generates food, in a sense pointed out by DaMatta.[20]

Thus, it becomes incongruous to ask individuals if "family members went a whole day without eating because there was no money to buy food" when considering that this group presents a specific lifestyle regarding access to food. This is because family members perform functions and actions that allow them to overcome these difficulties when, often, the absence of money does not become difficult because it is outside the sociocultural reality, for example, if we consider indigenous people. Therefore, assessing food and nutrition security (FNS) in these populations needs to be carefully conducted.

The lack of money as a primary limitation for acquiring food is perhaps an evaluative method limited to the capitalist system. Specific methodologies must be developed and applied when there are populations that also acquire food in different ways, such as the TCPs in their cultural diversity and geographic location in Brazil.

Therefore, some modifications to the EBIA were suggested to contemplate the socioeconomic and cultural contexts analyzed in the communities in question. Denominations such as production, access to land, cultivation, hunting, fishing, and food exchange among families were included as part of the semantics in the questions of the proposed adapted scale.

Thus, various elements that make up the food systems of rural families should be considered, and the results would represent the local reality. In these circumstances, there would be openness to considering different possibilities for the questions raised, from lack of access to land, climate issues, presence of pests and diseases, ecosystem contamination, and even the outbreak of pandemics, such as COVID-19. The money would not appear as an answer.

Although relevant issues are addressed in this paper, including those forming the basis of the critical analysis of the EBIA, few studies have questioned the semantics of the questions that are part of this scale and how these aspects might influence the understanding of the questions or the observed results.

In this sense, linguistic changes could also be made to increase the interpretability of the instrument. In the study by Yuyama et al.,[19] changes in some terms were proposed, such as healthy eating for good food, enough food for sufficient food, and food exchange for food exchange. Adaptations in the number of questions of the instrument are also recommended to obtain a simpler and more concise format, thus facilitating its application in the field.[8,19]

Adaptation of the EBIA in culturally diverse contexts

To reflect on the conceptual and methodological dimensions of culturally diverse contexts concerning indigenous peoples and the development and application of FI scales, Athila & Leite[21] conducted a sociopolitical and ethnographic analysis. They aimed to highlight the importance of rendering EBIA compatible with the forms of social organization and

their plural notions of ideal living conditions, which also permeate the dynamism of their food systems and seasonality, corroborating the aspects raised here.

Cultural differences among Brazilian families and the measurement of FI are relevant aspects to be considered since studies that have investigated FI in distinct regions in Brazil highlight the relationship between the worsening of this condition and social disparities.[17,22,23]

A recent literature review concluded that, although it is possible to discuss the causalities of potential determinants of FI and that the EBIA is a consistent instrument for measuring social vulnerabilities, it is necessary to improve the analysis to understand the effects of each social situation on the health conditions of Brazilian families.[24]

Assuming the hypothesis that there are particularities to these aspects of social disparities, consequences of the different lifestyles already exposed in this work, in what concerns the TCPs, these improvements should be even more careful from the way of collecting information to the analysis and understanding of these dimensions in the context of lifestyles and social disparities experienced. More specifically, research that dialogues with these sociocultural and environmental singularities and the adequacy of the collection instruments are still scarce.[21]

In this sense, Reichenheim & Bastos[9] expose the perspective of a form of measurement that considers quantitative aspects and the possibility of a comparative evaluation between different populations, recognizing and considering, in this context, sociocultural differences, allowing the application of an instrument considered "universal" but appropriate for each situation. This is the case of the TCPs and the adaptations proposed here so that populations with relevant differences from the sociocultural point of view can be compared starting from the same problem of interest, in this case, the FI.

Scale adapted for traditional peoples and communities: future perspectives for the validation stage

Notably, the proposition of the scale adapted for the TCPs comprises this work's initial stage. This analysis' subsequent stage will be based on the discussions held among the researchers, the literature survey on the theme, and the questions adapted to the TCPs. It was postponed due to the necessary biosafety measures, such as social distancing, in the face of the COVID-19 pandemic.

This work's follow-up includes the review of this material by a panel of experts in the areas of FI, food anthropology, and TCPs, followed by the validation9 of this new instrument with application in different regions of the country, initially in the states of Amazonas, Pará, and Pernambuco. In practice, the objective is to understand the effects of these new questions and their applicability to their proposed purposes, considering the need for studies on FNS in specific populations, such as TCPs.[25]

FINAL CONSIDERATIONS

The EBIA is considered to be the beginning. It is an important tool in the evolution of studies on FS. However, there is a need to broaden the scope of FS analysis, especially in a country with such cultural and territorial diversity as Brazil.

In this perspective, EBIA needs to be contextualized for the TCPs since these groups are home to immense cultural diversity and develop their agrifood systems in many ways, and in many cases, the presence of money is not a prerequisite for access to food.

Thus, we recommend the development of a specific instrument to assess the FS of traditional peoples and communities, or even the reformulation of the EBIA, to contemplate the particularities of these groups and bring more reliable FI results to support appropriate public policies to meet the health needs of this segment of society.

It is also noteworthy that these peoples frequently have their lands invaded, plundered, and polluted, whether by representatives of agribusiness or by multinational private companies and other undesirable actors. In this sense, it is worth questioning why topics related to accessing land are not yet part of the evaluation methods for food and nutritional security since there is no FS without food sovereignty and access to territory, from which the TCPs reproduce their existence strategies through their specific ways of life and practices.

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Contributors

All authors participated in the ideation of the study design. Lopes AF, Carvalho MJLN, Aquino NB, and Barros FB performed the survey and analysis of the theme, article writing, and final review and approval of the manuscript for submission.

Conflict of Interest: The authors declare no conflict of interest.

Received: March 24, 2022
Accepted: September 27, 2022