



Invited Commentary

Creating healthy food pantries by using behavioural economics approaches

Since the first food bank was founded in 1967 in Phoenix, AZ, USA⁽¹⁾, food banks and food pantries have been established all over the world, organized in several national and global networks such as Feeding America⁽²⁾, Food Banks Canada⁽³⁾, the European Food Banks Federation⁽⁴⁾ and The Global Food Banking Network⁽⁵⁾.

Food pantries in high-income countries vary substantially in their size, distribution schemes, eligibility criteria, organization, and financial and food sources between and even within countries^(6,7). Some food pantries provide predetermined bags, whereas others allow clients to choose the foods they prefer; that is, so-called choice-based food pantries^(8,9). Although users of food pantries are very heterogeneous in terms of educational background, age and household size⁽⁷⁾, they share a high risk of being food insecure^(10–13), of being overweight or obese^(14,15) and of having at least one chronic disease such as hypertension or diabetes^(14,15). Dietary quality plays an important role in relation to food insecurity^(16,17) and most of the common diseases observed among food pantry users^(18,19). However, a systematic review revealed that dietary quality among food pantry users tended to be low as reflected by inadequate mean group intakes of energy, fruits and vegetables, dairy products and calcium⁽²⁰⁾. At the same time, food pantries present important settings for diet-related intervention measures through their low-level services and their nationwide structures throughout high-income countries such as the USA⁽²¹⁾ and Germany⁽²²⁾.

Explaining the dietary quality of food pantry users

It has been widely recognized that dietary behaviour cannot be explained by individual factors only⁽²³⁾. Ecological approaches address different levels of influence and have proved to be useful to guide research efforts aiming to understand the multifaceted, interacting impacts of the individual, social and environmental levels on dietary behaviour⁽²³⁾. Such approaches are based on the idea of a reciprocal causation, meaning that, in this case, dietary behaviour shapes and is shaped by the social and built environment⁽²⁴⁾.

In the context of food pantry users' dietary intake, an ecological perspective recognizes that the dietary intake of food pantry users is also determined by factors that

are beyond individual control such as the nutritional quality of the foods provided by the food pantry and other food sources and/or by the distribution system of the food pantry⁽²⁵⁾. The nutritional quality of the foods provided by a food pantry might in turn depend on state, national and supranational laws and regulations, as well as on the demand of food pantry users and the food sources of the food pantry.

Improving dietary quality among food pantry users

In their study 'A behavioural economics approach to improving healthy food selection among food pantry clients', published in this issue of *Public Health Nutrition*, Caspi *et al.* address both food pantries' supply of and users' demand for healthy foods by implementing a comprehensive behavioural economics approach called SuperShelf⁽²⁶⁾. Trained SuperShelf consultants assisted food pantry staff to improve the quantity and variety of healthy foods by ordering healthy foods from food banks, creating 'donor-friendly' messages to encourage donations of healthy foods and identifying additional food sources. In addition, the consultants helped the food pantry staff to increase the prominence and appeal of healthy foods, for instance, by arranging the foods in a specific order and by adapting the food allowances set by the pantry without limiting clients' choice.

Although food pantries present an ideal setting for behavioural economics approaches, Caspi *et al.*'s study is one of the first and the most comprehensive one in a food pantry context⁽²⁶⁾. It is of value that the study considered concerns of both key stakeholders in a food pantry context: food pantry staff and food pantry users. Concerns of food pantry staff include, for instance, the possibility of offending donors, not wanting to decrease the amount of foods provided and concerns in terms of limiting users' choice⁽²⁷⁾. By contrast, food pantry users may desire to receive a greater amount and variety of fresh foods⁽²⁸⁾ and the low dietary quality observed among food pantry users⁽²⁰⁾ highlights the need to promote healthy food choices. The perspective applied in the study by Caspi *et al.* allowed the identification of factors affecting supply and demand and its reciprocal relationship, particularly those factors that



are beyond the individual food pantry or the individual food pantry user.

Since many food pantry users suffer from diverse hardships and face competing demands⁽²⁹⁾, another important advantage of SuperShelf⁽²⁶⁾ is that the intervention is less burdensome compared with interventions addressing individual factors such as cooking classes or other educational measures applied in food pantries (see, for instance, references 30–32).

It is commendable that Caspi *et al.* identified the prerequisites for the intervention such as applying a choice-based food distribution model⁽²⁶⁾. Given the high variability of food pantries^(6,7), an intervention can be disseminated to other food pantries only if the prerequisites for an intervention are openly communicated and food pantries receive assistance to meet them. Since most food pantries are based on volunteers' engagement⁽⁷⁾, creative measures are needed to support the process to meet the prerequisites and, finally, to adopt a comprehensive intervention such as SuperShelf. The measures applied in Caspi *et al.*'s study to support food pantries to become 'ready' for SuperShelf, such as the provision of specific training on cultural equity, are a promising approach to secure the dissemination of the intervention to other local food pantries and to increase the sustainability of the measures. The future success of SuperShelf and similar approaches will be determined by the resources of other food pantries such as staff, facilities and financial capabilities to adopt a choice-based pantry model and to secure the prompt distribution of perishable foods.

The SuperShelf study⁽²⁶⁾ is well conducted and some of its limitations, such as lack of pantry randomization, lack of dietary data and the small sample size, are common among this type of research and will be overcome by an ongoing larger group-randomized trial. A larger study is recommended to assess the dietary quality over four weeks to identify potential variations in the diet depending on visiting the food pantry. The so-called monthly 'food stamp cycle' suggests that at least among subgroups of recipients of the Supplemental Nutrition Assistance Program or individuals with low income, food intake and food expenditure increase after food assistance^(33,34) or after transferred income⁽³⁵⁾ and then decrease over time before the next assistance/income. It is so far largely unknown whether similar cycles also exist in relation to food pantry use. Supplying about 30 kg of food that is often near its best-before date to food-insecure people may, however, have the potential to unintentionally induce periods of overeating. If applicable, this risk should be investigated by larger studies.

Moreover, it is recommended to investigate the mechanisms by which SuperShelf⁽²⁶⁾ might influence users' diet. Beyond the direct nutritional value of the foods provided, food pantries' assistance is likely to relieve users' financial budget. Food pantry users may buy additional foods to increase the nutritional value of their meal plan⁽³⁶⁾. This issue has so far, however, rarely been investigated. In addition to a direct nutritional and a financial value, food pantry

interventions such as SuperShelf might improve users' dietary quality by influencing users' attitudes concerning healthy foods (see, for instance, a recent meta-analysis by Cadario and Chandon who differentiated between cognitively oriented, affectively oriented and behaviourally oriented healthy eating nudges⁽³⁷⁾). A deeper understanding of the mechanisms by which SuperShelf may work helps to identify successful strategies promoting the dietary quality of food pantry users and to adapt these strategies to the structures of other food pantries in high-income countries.

In conclusion, SuperShelf⁽²⁶⁾ is a well-conducted, promising intervention study in a food pantry context. The large dependence of the users on food pantries' assistance observed in the study – the majority of the participants received about half or more of their total food from the food pantry – is, however, of concern. Given their charitable and volunteer-driven nature⁽⁷⁾, we are convinced that food pantries should be only one part of the food safety net consisting of public welfare, social services and the charitable sector.

Acknowledgements

Financial support: This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors. *Conflict of interest:* None. *Authorship:* A.S. conceptualized the manuscript and wrote the first draft; N.S.-B. contributed significantly to the first draft of the manuscript; both authors reviewed and edited the manuscript. *Ethics of human subject participation:* Not applicable.

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