

Experiences and perceived outcomes of low-income adults during and after participating in the British Columbia Farmers' Market Nutrition Coupon Program: a longitudinal qualitative study

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RESEARCH SNAPSHOT

Research Question: What are the changes, differences and similarities in participants' experiences and perceived short-term outcomes during and after participating in the British Columbia Farmers' Market Nutrition Coupon Program (FMNCP)?

Key Findings: Three themes were generated: Temporary Relief and Engagement; Lasting Experiences and Outcomes; Enhancing Participant Experiences and Outcomes. The first theme related to how experiences and perceived outcomes, such as increased financial support and improved diet quality and health, were temporary. The second theme reflected positive experiences and outcomes that lasted following the FMNCP, including enhanced social ties. The third theme focused on enhancing participants' program experiences and outcomes.

ABSTRACT

Experiences and perceived outcomes of low-income adults during and after participating in the British Columbia Farmers' Market Nutrition Coupon Program: a longitudinal qualitative study

Background: The British Columbia Farmers' Market Nutrition Coupon Program (FMNCP) is a farmers' market food subsidy program that provides low-income households with coupons valued at \$21/week for 16 weeks to purchase healthy foods at participating BCAF member farmers' markets.

Objective: This study aimed to explore changes, differences and similarities in participants' experiences and perceived short-term outcomes during and after participating in the FMNCP.

Design: A longitudinal qualitative research approach was used to conduct a recurrent cross-sectional analysis. Data generation and analysis were guided by Freedman et al's theoretical framework of nutritious food access. Data generation occurred during (time one) and 4-7 weeks after (time two) the 2019 FMNCP program year ended. Data at each time point were analyzed separately using directed content analysis, followed by a comparative analysis to identify changes, differences and similarities between time points.

Participants: 28 adult participants were interviewed during the program; 24 were re-interviewed post-program.

Setting: Three communities in British Columbia, Canada.

Results: Three themes were generated: Temporary Relief and Engagement; Lasting Experiences and Outcomes; Enhancing Participant Experiences and Outcomes. The first theme related to how

participants' experiences and perceived outcomes, such as increased financial support and improved diet quality and health were temporary. The second theme reflected positive lasting experiences and outcomes from participating in the FMNCP, including increased food and nutrition knowledge, and enhanced social ties. The third theme focused on enhancing participants' program experiences and outcomes, including increasing the duration of food subsidies.

Conclusion: The FMNCP temporarily enhanced access to nutritious foods and had lasting positive effects on participants' nutrition-related knowledge and social outcomes. Nevertheless, participants struggled to maintain healthy eating practices post-program due to financial constraints. Expanding farmers' market subsidy programs may improve access to nutritious foods, maintain positive dietary, social and health outcomes for participants, and reach more low-income households.

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INTRODUCTION

Food insecurity is a significant public health concern in Canada.¹⁻⁴ Food insecurity, the inadequate or uncertain access to food, is primarily an issue of inadequate income. Thus, individuals with lower incomes have higher rates of food insecurity than those with higher incomes.¹⁻⁵ In 2017-2018, 12.7% or 1 in 8 households experienced food insecurity.⁴

Individuals living in households that are experiencing food insecurity often have poorer diet quality,⁶⁻¹¹ and have a higher risk of poor health, and chronic disease.^{1, 12-17} As food access is shaped by a variety of economic, social and personal factors,¹⁸ policies and interventions that adopt a multifaceted approach to improve factors that influence food access for low-income households may help reduce food insecurity and improve diet quality.¹⁹⁻²¹

Farmers' market (FM) food subsidy programs may enhance food access through domains of nutritious food access delineated by Freedman et al's¹⁸ framework, including economic (i.e., household financial resources and perceived costs of healthy foods), service delivery (i.e., features of food stores such as overall presentation and quality of foods sold), personal (i.e., individual factors such as nutrition-relation knowledge and food preferences), spatial-temporal (i.e., location and time required to access food establishments) and social domains (i.e., factors that influence food choices such as culture and relationships with food staff/vendors). For instance, participants in previous qualitative studies of FM food subsidy programs have reported improved economic access to purchase fruits and vegetables in FMs,²²⁻²⁵ and perceived that

foods purchased in FMs were higher quality than those available in other food venues.^{22, 24, 25} Moreover, participants reported positive interactions with local vendors^{22, 24, 25} and increased nutrition-related knowledge.²² On the other hand, some studies found that aspects of the spatial-temporal domain of food access such as a lack of transportation to local FMs^{22, 24-27} were barriers to food access in FM food subsidy programs.

Qualitative researchers have also found that FM food subsidy programs have positive dietary, social and health outcomes for participants.^{22-25, 28} Participants in several studies reported greater fruit and vegetable intake and emphasized the value of FMs for building local connections between farmers and community members.²²⁻²⁵ FM food subsidy programs may also yield health benefits for participants, such as improved physical and mental health,²⁸ and better management of chronic diseases.²⁷

FM food subsidy programs have attracted considerable interest across North America over the past several decades due to their potential to increase fruit and vegetable consumption²⁹⁻³⁹ and reduce experiences of food insecurity among low-income households.^{30, 39} However, knowledge gaps remain, as participants' experiences of food access have not been explored in an in-depth, comprehensive, and integrated manner. In addition, perceived social outcomes such as how FM food subsidy programs may influence participants' social interactions and relationships within and beyond the household, and participants' sense of community have not been comprehensively explored. Furthermore, qualitative studies on these programs have all entailed one-time interviews,^{22, 23, 26, 28} thus, it is unclear whether and how participants' experiences changed after programs ended and whether any outcomes were maintained over time.

Study context

The British Columbia Farmers' Market Nutrition Coupon Program (BC FMNCP) provides low-income households across BC with coupons valued at CAN\$21/week for 16 weeks throughout June-November.⁴⁰ Coupons are provided in \$3 increments and may be redeemed to purchase fruits, vegetables, meat, poultry, fish/seafood, dairy, eggs, nuts and fresh herbs in FMs.⁴⁰

The FMNCP is funded primarily by the Province of British Columbia and the Provincial Health Services Authority, and overseen and delivered by the BC Association of Farmers' Markets (BCAFM) through community partner organizations and participating member FM across BC.⁴⁰ Community partner organizations are local, non-profit organizations or government agencies that provide social supports to low-income individuals in a community or catchment area.⁴⁰ Within the FMNCP, community partner organizations enroll low-income households, pregnant women and older adults into the program and distribute coupons. Community partner organizations may also provide nutrition skill-building activities, such as pre- and post-natal nutrition classes and cooking classes, based on participant needs and interest.⁴⁰ In 2019, the FMNCP reached 5404 households in 78 urban and rural communities across BC.⁴¹

This study aimed to: 1) Explore changes, differences and similarities in participants' experiences during and after participating in the BC FMNCP; and 2) Examine perceived short-term outcomes of the BC FMNCP, and whether these outcomes were sustained after the program year ended.

METHODS

This study was approved by the University of Calgary Conjoint Health Research Ethics Board (REB18-0508). Written informed consent was obtained by all participants, and pseudonyms were assigned to protect confidentiality and anonymity.

Methodology

A longitudinal qualitative approach was used in the form of a recurrent, cross-sectional analysis. Given that we aimed to explore changes, differences and similarities between experiences and outcomes reported during and after the program year ended,^{42, 43} longitudinal qualitative research methodology was most appropriate to achieve our research objectives. Longitudinal qualitative research is distinct among qualitative approaches given its analytic focus on change across time.⁴² Accordingly, participants' experiences and perceived outcomes were analyzed at two separate points in time, then compared.⁴⁴ This approach is useful for informing policy by providing in-depth, detailed data illuminating change in lived experiences over time, including causes and processes of change that may occur due to no longer participating in a program.^{42, 45, 46}

Sampling, recruitment and data generation

Five community partner organizations from one urban and two rural communities (areas with $\leq 10,000$ people)⁴⁷ volunteered to participate in the study. Participants were purposively recruited by their local community partner organization via email, social media platforms or in-person. Individuals had to be currently participating in the 2019 FMNCP, over 18 years of age, the primary food shopper for their household, have 8 or less people living in the household, have no plans to move from their principal residence prior to December 2019, and be willing to

participate in two interviews. While we estimated that a sample size of 20 interviews would result in thematic saturation, participant recruitment occurred until no new concepts were being identified in the data. Our total sample was comprised of 28 participants who were interviewed at time one. Twenty-four of these participants were interviewed at time two.

Data generation at time one occurred during the FMNCP and data generation at time two took place 4-7 weeks after the 2019 FMNCP program year ended. Data generation was organized according to Freedman et al's¹⁸ theoretical framework of nutritious food access, which draws attention to five domains influencing nutritious food access, including economic, spatial-temporal, service delivery, social and personal.

Interview guides were semi-structured according to Freedman et al's¹⁸ framework in order to generate data around pre-determined topics, yet allow flexibility for participants to elaborate on topics they considered important. Interview guides were pre-tested over the telephone with two FMNCP participants. Interviews were conducted by two experienced researchers with previous experience in conducting qualitative interviews. Following pre-testing, guides were revised by grouping similar questions, and adding additional questions to explore program logistics and changes in other aspects of participants' experiences.

Between August-September 2019, researchers conducted in-person and phone interviews with 28 participants. From November to December 2019, these participants were contacted by phone and/or email for a second interview. After three communication attempts, four participants did not respond to requests to participate in the time two interviews.

Interviews lasted 30 – 75 minutes. At the end of each interview, socio-demographic information was collected, and participants completed a two-item household food insecurity

screeners.⁴⁸ Interviews were recorded and transcribed verbatim with assistance of an AI transcription app.⁴⁹ Participants were offered a CAN\$25 cash incentive following the first interview and CAN\$35 following the second interview.

Data analysis

Transcripts were transferred to NVivo (version 12.6) to manage and organize coding. Data were analyzed using a recurrent cross-sectional approach and this occurred in two main phases: 1) Directed content analysis of data from each time point and; 2) Comparative analysis to identify changes, differences and similarities between time points.⁴⁴

Directed content analysis⁵⁰ of data from each time point began with deductive coding of transcribed participant interviews guided by Freedman et al's¹⁸ theoretical framework, followed by inductive coding of data that did not correspond to the framework. For each time point, analysis began with repeated listening to audio files while correcting errors in transcription in the AI transcription app.⁴⁹ Two researchers coded the first three interviews independently and ran coding comparisons in NVivo to identify codes with low agreement between researchers.^{51, 52} Codes with low agreement were discussed and reviewed to improve agreement between researchers and enhance dependability of findings. Another three interviews were coded independently by the same researchers to finalize the coding scheme. Once all interviews were coded for each time point, one researcher grouped codes into subthemes and themes, and compared them to the data in an effort to ensure clear and accurate representation of participants' accounts.⁵³ Subthemes and themes were then discussed, named and defined by the research team.

One researcher, trained in longitudinal qualitative analysis, then conducted a comparative analysis of time one and time two subthemes and themes using Saldaña's⁴³ framework. The

researcher applied an inductive approach to analysis to identify changes, differences, and similarities between time points. Saldaña's⁴³ framework provides a set of 16 questions that were used twice during analysis: first during directed content analysis of time two interviews to begin identifying changes and similarities between time points, and again after themes had been generated for time one and time two as part of summarizing changes, differences and similarities in participants' experiences and perceived outcomes. Saldaña's⁴³ framework is divided into three subsets of questions, including framing, descriptive and analytic/interpretive questions. Framing questions set the study context in order to help frame the data and contextualize change between time points, while descriptive questions guided thinking about what influenced these changes and when these changes occurred. Analytic and interpretive questions integrated descriptive information to achieve richer and more in-depth levels of analysis by observing how changes interrelated through time.⁴³ Saldaña's⁴³ questions also helped guide the generation of themes related to no longer participating in the FMNCP. Findings were integrated into themes that focused on changes and similarities in participants' experiences and perceived outcomes during and after participating in the FMCNP.

Rigor

Several strategies to enhance trustworthiness of our findings were applied. Peer debriefing between researchers during data collection and analysis helped enhance consistency when interviewing and provided alternate perspectives of the data. Researchers exercised reflexivity when discussing and reflecting on their outsider positionality relative to study participants, and their influence on data collection and interpretation of findings. An audit trail consisting of decisions, researcher reflections and analytic field notes was maintained to support

a transparent description of study processes.^{54, 55} Moreover, frequent revisiting of transcripts throughout data analysis and the use of thick verbatim extracts enhanced the credibility of findings. Finally, providing rich detail of the study context can help assess the transferability of study findings to other contexts or settings.⁵³

RESULTS

Table 1 presents participant socio-demographics characteristics at time one and time two. Our sample closely represents the socio-demographic characteristics of FMNCP participants. Participants in our study were on average 49.5 years (SD=15.1 years), predominantly women between the ages of 19-59 years and more than one-third identified as First Nations or Métis. FMNCP participants are also predominantly women below the age of 60 years and one-quarter identify as First Nations or Métis (FMNCP program data, 2019). Three themes, with subthemes, were generated from the comparative analysis that related to changes, differences and similarities in participants' experiences and outcomes during and after the FMNCP: 1) Temporary Relief and Engagement; 2) Lasting Experiences and Outcomes; 3) Enhancing Participant Experiences and Outcomes.

Theme 1. Temporary Relief and Engagement

This theme relates to participant experiences and perceived outcomes, such as increased financial support, improved food shopping practices, improved diet quality and health, and enhanced social and community connectedness, that were temporary and therefore changed when the FMNCP program year ended, and participants were no longer receiving coupons.

Increased Financial Support

The temporary nature of the financial support provided by the FMNCP led to changes in participants' experiences and perceived outcomes during and after participating in the program. During the FMNCP, participants like Denise (seven-adult household, one child, age 59) experienced greater financial support to purchase food: *“Just the support I received with getting [coupons] each month, that made a difference in the amount of food that I was able to get. The coupons helped out a great deal. Not only in my family, like, my grandkids and my sister's family also. I made it stretch and shared it.”*

Once the FMNCP program year ended, participants described feeling *“sad”*, and *“disappointed”* from the loss of coupons, or as mentioned by Stacy (single-adult household, age 63), *“I am going through withdrawals”*. Participants returned to experiences similar to pre-program such as planning and purchasing foods on a reduced budget, which entailed buying less expensive foods. According to Grace (single-adult household, age 62), these foods were less nutritious than foods purchased in FMs: *“You start going back to the unhealthy way, and then just not feeling like cooking and, you know, the dollar store, you go in there and you'll pick up junk food, or you go to McDonald's 'cause it's cheaper to grab a \$1.99 burger, and that'll satisfy and it's garbage.”* Financial constraints also led participants to cut back on additional expenses, such as extra-curricular activities.

Almost half of participants reported increased financial stress when the FMNCP program year ended. Elaine (single-adult household, age 68) reported that her stress increased once she was no longer receiving financial support from the program: *“[My stress has] gone up a bit. Because again, there's that juggling, you know, that you do when you're going, okay, well, I should buy this, but I actually need this.”*

Improved Food Shopping Practices

The FMNCP led to changes in participants' experiences of purchasing foods during and after the program. During the program, FMs became primary locations to purchase healthy food, and participants reported fewer visits to grocery stores and food banks. Evelyn (single-parent household, four children, age 33) explained: *"In the summer I didn't use the food bank because I had the coupons."*

Once the program was no longer available, participants reported returning to purchasing and acquiring food in grocery stores, food banks and local farm shops (i.e., permanent establishments that sell locally sourced food). Many found themselves returning to pre-program shopping practices, such as continuously searching for deals and bargains, and restricting food choices such as purchasing fewer fresh fruits and vegetables and protein-rich foods. Grace (single-adult household, age 62) described: *"I just go back to, you know, wherever I can get the cheapest, that's the bottom line... It's bargain, bargain, bargain...you don't get the vegetables, I stick mostly to the eggs and I try not to eat meat as much as, you know, who can afford it?"*

Although two-thirds of participants reported having access to year-round FMs, the majority indicated that they no longer visited or shopped in FMs once the FMNCP program year ended, primarily due to a lack of financial support to shop in FMs. A few participants also found prices in FMs higher than in other food venues.

Improved Diet Quality and Health

Several participants reported changes in dietary intake during and after the program. During the FMNCP, participants had greater financial access to purchase fresh fruits, vegetables,

and protein-rich foods. Once the FMNCP program year ended, most participants reported returning to pre-program experiences which entailed eating fewer fruits and vegetables, while others consumed less protein-rich foods. For instance, Mia (two-parent household, three children, age 36), found that her family purchased and consumed less meat: *“We are not as able to eat meat. Like, we don't eat a lot of meat to begin with, but the coupons made it easier to get the meat.”*

The FMNCP also led to perceived differences in the quality of foods purchased and consumed during and after the program. While almost all participants perceived foods in FMs as higher quality and more nutritious than foods available in other food venues, many reported that they could no longer afford to purchase such foods once the FMNCP program year ended. Stacy (single adult household, age 63) explained: *“I'm going through the market and I'm thinking, oh if I had coupons, I would be buying fresh vegetables here at the market today. But I didn't because I'm too broke, have to wait for payday.”*

Participants reported how changes in their dietary intake from during- to post-program influenced their physical and mental health outcomes. While many described having had better health outcomes during the program, these improvements were short-lived and returned to pre-program levels. Julie (single-parent household, one child, age 44) explained: *“When you're getting the vitamins and the nutrients from all that fresh produce, you know, stuff like depression goes down, right, cause you're healthy. When you stop eating properly, even those things go, they slide back a little bit.”* Similarly, Carmen (single-adult household, age 40) who struggled with depression, noticed changes in her symptoms before, during and after participating in the FMNCP: *“I noticed myself going from a real depressing low, into a, I'm starting to feel good*

about myself, you know, I'm feeling healthy, I'm feeling good. Now I feel like I'm kind of getting back into that depression rut again."

Enhanced Social and Community Connectedness

Participants reported changes in social interactions and community connectedness during and after participating in the FMNCP. During the FMNCP, FMs were described as having unique social environments. Participants frequently interacted with farmers, vendors, and other FM patrons, and often shopped in FMs with their children, which enhanced family connectedness. Many also felt that they were contributing to their local economy and communities through the re-investment of provincial government funds.

Once the FMNCP program year ended and most participants no longer shopped in FMs, many reported returning to similar social experiences as pre-program, meaning they had fewer opportunities for social interactions and felt that they were no longer able to contribute as much to their local economy and communities. Paul (two-parent household, four children, age 41) explained: *"Because I'm not a social media person, I don't have Facebook or anything like that, I don't reach out to those people maybe, or I don't put myself out there to be reached out to. So when you go to [the FM], you put yourself out there... [When I shop grocery stores], I don't feel like I'm supporting my community at all. I'm supporting a major conglomerate."* Older, single adults such as Elaine (single-adult household, age 60), reported feeling more isolated: *"It was nice to run into people that I don't normally see, you know. [Without the FMNCP], it is a little bit lonely at times."* Moreover, grocery stores were described as less conducive to social interactions than FMs. Cheryl (two-parent household, two children, age 38) stated: *"Well with the coupons, you're going to the market and so you're talking to the people that are producing*

the food, and there's that opportunity for questions... And it's, you know, more of a direct relationship, whereas in the stores now, it's completely indirect. I don't really talk to anyone. It's way more isolating in that sense of you don't run into a lot of people that you know."

Theme 2. Lasting Experiences and Outcomes

The second theme relates to lasting experiences and perceived outcomes that resulted from participating in the FMNCP. The FMNCP increased food and nutrition knowledge, enhanced social ties, and fostered ongoing interest in procuring locally produced foods.

Food and Nutrition Knowledge

The FMNCP and shopping in FMs led to increased food and knowledge among participants. During the FMNCP, participants like Heather (four-adult household, age 48) were exposed to various types and varieties of fruits and vegetables, and learned about preparation and cooking methods: *"I learned there was different kinds of kale... Some [of the vendors] are so nice, you know, they explain... and tell you what to cook it with."*

Exposure to and learning about new types of produce during the FMNCP created lasting experiences and perceived outcomes for participants, such as increased confidence and ability to prepare and cook meals after participating in the FMNCP. Daniel (two-parent household, five children, age 43) explained that his family's *"diet range expanded"* as a result of the program, and he started purchasing a wider variety of vegetables in grocery stores after the FMNCP program year ended: *"Although we've always cooked with fresh ingredients, I am still looking for deals... where I wouldn't have ordinarily bought like eggplant or something like that. If it's on sale, "hey, remember that dish we had in the summer guys, like, let's try that again," right."*

Moreover, participants with children noticed an ongoing interest in food and nutrition amongst their children. Paul (two-parent household, four children, age 41) explained: *“[My daughters], they talk about things they've seen at the market, as well as certain foods at the market.”*

Once the FMNCP program year ended, a few participants like Zoe (single-adult household, age 30) continued sharing their knowledge gained from shopping in FMs with relatives and friends: *“When you're out and about [in FMs], exposed to different veggies... learning, like, what I can do with what I have. And I think that in the long run, it will help myself, and my younger sister... I invite her to come over and I teach her about veggies and things.”*

Enhanced Social Ties

The FMNCP and shopping in FMs had lasting perceived social outcomes for participants. The FMNCP provided opportunities to create new relationships between participants and farmers, allowed bonding time for families, and fostered a sense of community for many.

Although participants reported fewer opportunities for social interactions after the FMNCP, the FMNCP increased their social ties in the community compared to pre-program. This was the case for Stacy (single-adult household, age 63), who continued to visit a year-round FM post-program: *“What did happen with the coupon program is I've got vendors now that I talk to, which you know, I didn't shop as much at the market before the coupon program. So, of course I didn't know the vendors, right. But now I know some of the vendors a little bit, so that's kind of fun.”* For others like Zoe (single-adult household, age 30), the FMNCP expanded her social network: *“And that's why I liked to go to the market, because every week you'd get to know the vendors well. When we were at the library a month ago, we saw one of the vendors from [the local FM], "Oh hi! A friend!" Like a personal connection, a community coming together.”*

The FMNCP also influenced a few participants to become involved and volunteer with organizations in their community. For instance, Kim (single-adult household, age 67) started volunteering with her community partner organization during the FMNCP, and continued post-program: *“[The FMNCP] got me volunteering for the [community partner organization], which is very positive... Because, you know, if you get something, you want to give something back, is really what it was about.*

Procuring Locally Produced Foods

The FMNCP fostered an ongoing interest among participants in procuring locally produced foods. During the FMNCP, participants were exposed to various types of fresh, local foods, and often discussed the importance of purchasing locally produced foods.

Once the FMNCP program year ended, participants reported an ongoing interest in procuring locally produced foods, which led several participants to search for and shop in local food venues after the FMNCP. Heather (four-adult household, age 48) described how the FMNCP encouraged her to purchase locally produced foods post-program: *“I think it's really important to support the little towns you work in, and the small businesses, you know. [The FMNCP made] me want to support [local], I like the money to stay here, I think it's important, right.”*

Theme 3. Enhancing Participants' Program Experiences and Outcomes

This theme encompasses suggestions made by participants to further enhance their positive experiences and perceived outcomes of participating in the FMNCP. During the program, suggestions were concerned with the specifics of the FMNCP, such as the ease of

coupon use and redemption in FMs. Once the FMNCP program year ended, participants offered suggestions to mitigate experiences related to financial hardships.

During the program, participants offered suggestions to address constraints with redeeming coupons in FMs. These suggestions included providing coupons in smaller denominations, and allowing for a greater variety of foods to be purchased with the coupons (i.e., preserves, jams, bread). Moreover, participants like Carmen (single-adult household, age 40), recommended providing more coupons to purchase protein-rich foods: *“Even if I just got one more coupon [to purchase meat], you'd be able to afford something instead of having to, like how we did, we saved it, and then waited till the next week to be able to afford a package of porkchops or a pack of bacon.”*

Over half of participants recommended providing subsidies beyond 16 weeks that could be redeemed in FMs that operated year-round as several had relied on the financial support of the program. Denise (seven adult household, one child, age 59) suggested: *“Just to have, have it extended if the market is year-round, the coupons could be year-round too. It didn't seem like it was very long. I don't know, it seemed like that was only weeks, and it was done.”* Participants also recommended expanding the program to include multiple food venues, such as local farms shops, mobile produce trucks and grocery stores, for greater variety and year-round options. Julie (single-parent household, one child, age 44) explained: *“If we could somehow talk like [names of two major grocery chains] into taking the coupons... then we could use them year-round, right.”* A few suggested to expand the program to reach more low-income households in their communities. Some suggested expanding the program's eligibility criteria to allow for single adults (<60 years) to participate, while others wanted the program to be expanded to accept more participants.

DISCUSSION

Our findings highlight that although participants reported positive lasting experiences and outcomes from participating in the FMNCP, several negative changes also occurred post-program due to its time-limited nature. First, study findings suggest that the economic support of the FMNCP enhanced participants' access to fresh, high-quality foods in FMs and promoted healthy eating practices. These findings are consistent with qualitative studies of FM food subsidy programs in the US in which participants reported greater economic access to healthy foods, and consumed more fruits and vegetables when participating in these programs.^{22-25, 27} Our findings also demonstrate that the economic benefits of the FMNCP were confined to the duration of the program as participants reported returning to pre-program experiences which entailed purchasing and consuming fewer fruits, vegetables, and protein-rich foods than during the program. Once the FMNCP program year ended, the lack of financial support contributed to participants' inability to maintain healthy eating practices and sustain perceived improvements in physical and mental health outcomes. Research suggests that limited and unstable incomes may constrain individuals' ability to access nutritious foods and maintain healthy eating practices.^{18, 27}

Many participants no longer shopped in FMs once the FMNCP program year ended, and thereby no longer benefitted from FM-associated positive social experiences and outcomes. For instance, participants noted returning to similar social experiences as pre-program, such as having limited opportunities for social interactions and to feeling more socially isolated. On the other hand, although temporary, increased social interactions in FMs during the program created opportunities for lasting experiences and outcomes through building new relationships and strengthening social ties with members of the community. Other authors have suggested that

building social connections with others may yield positive health outcomes, promote healthy eating practices, and reduce mortality risks among adults.^{56, 57}

While the FMNCP had lasting effects on participants' food and nutrition knowledge, our results indicate that when the economic support provided by the FMNCP was no longer available, participants struggled to access nutritious foods and maintain healthy eating practices. Our findings are consistent with results from Freedman et al's¹⁸ study which found that food and nutrition-related knowledge, whether acquired through formal programs or informal interactions with farmers/food vendors, is on its own insufficient to enhance access to nutritious foods and promote healthy eating practices.

The increasingly high prevalence of food insecurity across Canada calls for effective and sustainable policies to improve income supports¹⁻⁴ and thereby enhance access to nutritious foods.¹⁸ Our results suggest that the FMNCP enhanced access to healthy foods, promoted healthy eating practices and improved dietary, social and health outcomes. While some benefits, such as increased social interactions and food and nutrition knowledge were maintained once the program year ended, many were temporary as participants returned to planning and purchasing foods on a reduced budget. Sustained economic support is therefore crucial to enhance food access, maintain healthy eating practices, and promote positive dietary, social and health outcomes among low-income adults participating in food subsidy programs.

Study findings can inform improvements to the FMNCP and other FM food subsidy programs. First, our data highlight current limitations of FM subsidy programs that provide temporary, time-limited financial benefits to small segments of the low-income population. Participants suggested that providing subsidies beyond the traditional summer FM season that could be redeemed in year-round FMs may improve access to nutritious foods and help maintain

positive dietary, social and health outcomes for participants. Participants also suggested extending the use of subsidies to include multiple food venues could enhance purchasing flexibility. In addition, participants felt that expanding FM food subsidy programs to reach more low-income households could provide more equitable access to households in need. These strategies, along with policies providing broader income support (e.g., social assistance, senior and child income benefits)⁴ may reduce household food insecurity and enhance food access within and beyond Canada.

This study has several strengths and limitations. The longitudinal qualitative approach was a key strength as it allowed us to gain an in-depth understanding of the causes of and processes of change that occurred between time points.⁴² This approach also helped uncover how positive program experiences and outcomes were no longer experienced once the program year ended. The use of Freedman et al's¹⁸ theoretical framework on nutritious food access supported a comprehensive exploration of participants' experiences of accessing nutritious foods during and after the FMNCP program year ended. Limitations include the volunteer nature of the sample, as it is possible that participants who agreed to be interviewed may have experienced the FMNCP more positively than other participants, and the potential for social desirability bias. However, participants readily shared their disappointments and negative experiences, and offered several suggestions to improve the program. In addition, our sample was limited by low representation and attrition of men at time two, therefore our findings may not have fully captured their experiences and perceived outcomes. However, our sample had similar socio-demographic characteristics as FMNCP participants, thus, our findings should reflect experiences and perceived outcomes of many program participants.

CONCLUSION

Our results highlight several temporary and lasting positive experiences and perceived outcomes that resulted from participating in a time-limited FM food subsidy program. During its operation, the FMNCP enhanced food access through several domains of Freedman et al's¹⁸ framework, including economic, service delivery, social and personal domains. However, once the FMNCP ended, many participants struggled to access nutritious foods and maintain healthy eating practices post-program when they lacked the financial support provided by the FMNCP, and experienced negative health outcomes as a result. Participants offered suggestions to further improve experiences and outcomes of FM food subsidy programs, such as providing food subsidies that could be redeemed in year-round FMs and expanding programs to reach more low-income households. These strategies, along with more upstream income support policies may help to reduce food insecurity and improve access to nutritious foods for low-income households.

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