

Preliminary Qualitative Analysis of a Novel Produce Prescription Pilot Program

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Background

Eating a diet rich in fruits and vegetables is associated with health benefits including chronic disease prevention, weight management, and protection against certain cancers (1). However, almost 90% of American toddlers do not consume the daily amount of vegetables recommended by The Dietary Guidelines for Americans 2020-2025 (2). In particular, those with food insecurity often do not have access to fruits and vegetables and have lower consumptions of fruits and vegetables (3).

The Family Lifestyle Program (FLiP) is a family-centered, clinical community collaborative started in 2016 at Children's National Hospital (CNH) in Washington, DC to better address diet related chronic disease. The FLiPRx produce prescription program delivers locally grown fresh produce biweekly to families with children 0-5yo identified in the clinic as at risk for food insecurity (using Hunger Vital Sign®) and diet related chronic diseases. FLiPRx offers approximately 24 hours of nutrition education in the form of virtual cooking classes, culturally-relevant, video-based education, and instruction cards included in the produce deliveries. FLiPRx directly addresses food accessibility issues due to the food deserts in DC by providing a stable and consistent opportunity to reduce food insecurity and to provide families with the knowledge and the tools needed to improve their children and family's short- and long-term health.

Objective

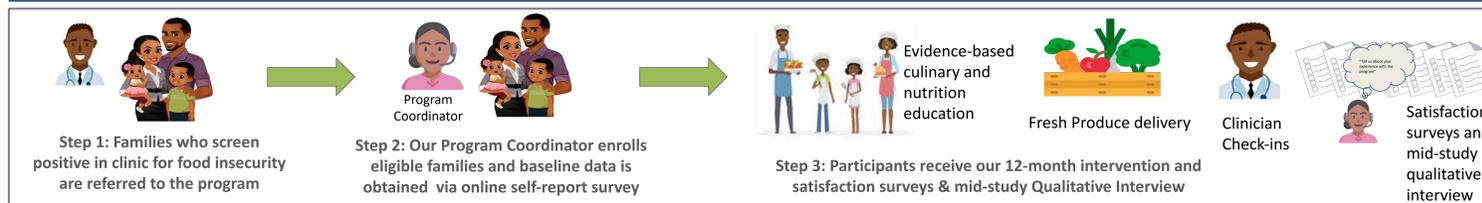
- To assess feasibility, acceptability and adherence to a 52-week produce prescription delivery intervention and nutrition education program in CNH patients (age 0-5) and their adult caretakers who experience food insecurity and are at risk of diet-related disease.
- To determine the effect of the intervention program on diet quality and eating behavior in children at risk of obesity and their adult caretakers.
- To evaluate the mediating influence of changes in psychosocial functioning (i.e., self-efficacy, social support, perceived health) on improvements in diet quality and eating behaviors.

Methods

This is a 52-week pilot longitudinal behavioral intervention with an observational follow-up. This study uses a mixed-methods study design with follow-ups lasting 1 year after the end of the intervention phase. The study population was recruited by convenience sampling from CNH outpatient clinics and is representative of families living in under-resourced areas with a predominantly African-American demographic in Washington, DC. Screening and recruitment was completed in 3 weeks and 6-month retention was 72% (18/25). The program and study population are described in more detail in the poster "FLiPRx: Design and baseline data from a novel produce prescription intervention."

We conducted qualitative interviews with 12 adult FLiPRx participants via Zoom after 6 months of participation in the program. The interviews were semi-structured and designed to assess participants' perceptions and experiences of the program, opinions of the produce delivery, purchasing patterns, and perceived impact on family consumption of fresh fruits and vegetables. Interviews were recorded and transcribed for thematic analysis. Transcriptions were coded inductively and deductively by categorizing participants' answers. Thematically similar statements were grouped into categories that were analyzed to identify patterns of similarity and common themes.

Program Overview



Results

1. Perceived improvement in food security

Reliability: Participants' descriptions of a consistent source of food improving well-being

"[The produce] helps a lot, far as the nutrition, the vegetables and the fruit—I mean different kinds of veggies—for me and my daughter and it just helps us and it saves me money because sometimes I can't get the veggies and stuff like that that I need because of my finances. Because of the pandemic I lost my job so it helps a lot" (17).

"What if something happens with my SNAP? I can't just fully depend on that. And now I know that I still have my produce coming from y'all. [...] It hasn't been the case yet, but you don't know what's gonna happen in the future, so I don't wanna end the [FLiPRx] program and, you know, something happens with the SNAP, now it's gotta come out of my pocket. I know I still have the bag coming" (13).

Accessibility: removing transportation barriers via direct delivery, and by exposing families to a variety of food items.

"They deliver [the FLiP produce boxes]. So I don't have to go stand in line, I don't have to deal with the crowd. It's just delivery at the front door without me having to order, so that just saves a little time and me trying to get food or going to the grocery store, especially if I'm at work or with the children and don't have time to take them [or] car's gone out" (3).

"We love string beans. I was always into my veggies, but I couldn't afford as much as I get from you all; I couldn't afford the different varieties" (17).

3. Strengthened economic flexibility.

Flexibility: easing some financial strain by providing food, which allows families to use the money they would spend on produce differently.

"[The program] made it so that I was more conscious about what I was purchasing. [...] It made me think about meal planning more as opposed to, 'okay I'm just gonna go and get what I normally get and get out.' [...] If I have a little bit of [FLiP produce], then I can put money that was allotted for [that produce] over to maybe a non-SNAP item or maybe I can get more fruits, more noodles (since that's what [my son] likes), more meats to go with it to kinda stretch the money a little longer. So it's actually helped my budget as far as I can now move—my grandmother calls it 'moving her blocks around'" (8).

Families report having more money for other things, including:



Supplement federal programs (SNAP/WIC)

"Being the mom in a house with six kids, three adults, you know, sometimes things come up short with my SNAP benefits. I don't have all the people in my home on my SNAP benefits [...] so sometimes we come up short and I have to make those vegetable dishes [...] because that's what we have for us to eat" (2).

2. Supported family-driven behavioral change

Some new foods our families tried:



"[I tried] beets. That's the biggest one because I've always thought beets were super disgusting. My mom loves them but we watched one of the Ask the Chef videos where she was making roasted beets and I was like, 'oh, okay, I'm gonna try that' and I did and it was actually really good, so I was like, 'oh cool!'" (8).

"[The program] has exposed myself and my son to different vegetables. Like I'd always say I didn't like beets, but in reality I'd never actually tried a beet. You know? Like, it's a beet. I'd heard things about it, about the texture and the taste, and for me, the reason why I'd never wanted to taste it is because they look funny. They don't look appealing [sic] to the eye to me. But, you know, I did try it, you know, in a smoothie, and I can say that I don't care for beets. And I've tasted [them]" (26).

New skills our families endorse learning include:

1. Cooking beets - "we tried to do the recipe for the beets [by] cooking it on top of the stove. I think my daughter did eat some of that, and I loved it. [...] Most people in my family don't know how to cook beets" (23).

2. Roasting vegetables - "put [vegetables] in the oven. I'd never done that before" (17).

3. How to introduce the new foods to [...] younger children" (19).

"[The Ask the Chef videos] are pretty cool, it was just like that they've really taken the time out and really teaching step by step, you know, especially for those who may not know how to cook or know what to do and I found that pretty cool. [...] It's like they're getting the hands-on training but it's virtual and I find that pretty awesome" (3).

Change in eating habits

"[the program has been great] not just for the kids. Like for me, I'm consuming more of the fresh produce. It's done a lot for me and my health. I have been able to stop taking my blood pressure medication so that is a plus. I learned how to give myself the right foods in the right order, to make sure I'm getting enough of the right stuff, and that's been a big positive" (19).

4. Enhanced family bonding

Promotes family interactions

"That [corn salsa recipe] was pretty good. My sister actually watched the video with me and [we] tried it and it turned out pretty good, it was a little spicy, but it was good" (10).

Engages the children and involves them in the cooking process

"My two girls love it, especially like cooking, making the little recipes that you guys send in the bag, my children love it. [...] They get to prep the food, they get to like, you know, stir the food, make the food, [...] they stir the food, sometimes I would show them how to, like, chop the food, like I would guide them with the utensil, things like that" (4).

"When you guys sent out the Foodie utensils, the children was really really engaged. [...] the more engaged the children are, the more they want to taste the food and like try the food for the first time" (4).

Discussion

- The FLiPRx program has potential to improve food security, healthy eating, and financial flexibility.
- At the six-month mark, participants describe the consistency and reliability of the FLiPRx produce boxes as contributing to an increased sense of food security, particularly because the food is delivered.
- This stability acts as insurance for the future and eases some of the anxiety over the future status of other food and aid sources.
- Participants reported positive changes in their eating and purchasing habits, habits they anticipate will continue after the intervention.
- Several families endorse an increase in consumption of fresh produce and through the nutritional education component, have learned new recipes and cooking techniques that facilitate healthier eating.
- These preliminary findings will be further investigated when longitudinal data are available at the end of the pilot program. We are planning to expand the pilot and trial the intervention in RCT to rigorously test the clinical, behavioral, and economic impacts suggested by our qualitative analysis.

Next steps

- Continue gathering data in monthly surveys and 1-year interviews
- Implement validated economic questionnaire to further explore financial impacts
- Complete post program interview to explore lived experiences
- Redesign new pilot based on feedback from families

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