Expanding the Reach and Impact Of Healthy Together: Focusing on Newcomer Families

Prepared by:

Abdul-Fatawu Abdulai,

UBC Sustainability Scholar, 2020

Prepared for:

Michele Hopkins

Director of Family Services, The Bridge Youth and Family services

and Dr. Joan Bottorff

Professor, School of Nursing, UBC Okanagan

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Disclaimer

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Executive Summary

According to the 2016 population and housing census, immigrants make up approximately 21% of Canada's population. Since then, the number of immigrants has been growing steadily. Immigrants typically arrive in Canada healthier than the general Canadian population. However, after years of settlement, immigrants tend to experience poorer health outcomes than their Canadian counterparts. This phenomenon partly necessitated the development of several health promotion interventions aimed at helping immigrants to transition into Canada and live a healthy life. Healthy Together (HT) is an example of a health promotion program that offers a comprehensive approach to promoting healthy eating and physical activity in families with children age 0-18 years. The focus is on creating family-focused change in knowledge, attitudes, beliefs, and behaviour in both healthy eating and physical activity. Though the HT program has demonstrated the potential to promote healthy lifestyles among immigrant and refugee families as well as providing an avenue for building social connections and supporting family resettlement experiences, the program has not been specifically adapted to newcomers. The purpose of this project was to identify ways in which the HT materials and facilitator training can be adapted and used by community organizations to maximize the impact of the program by engaging newcomer families.

This project included two parts. In part one, we conducted a literature review to understand newcomer perspectives on healthy eating and physical activities and the ways in which health promotion programs have been adapted for newcomers, and their effectiveness in supporting healthy lifestyles among newcomer families. The literature review revealed the need for maintaining local food habits among newcomers, inadequate understanding of Canadian foods, age differences in food and physical activity preferences, and the role of acculturation in changing the food habits of newcomers. The review also demonstrated how programs were adapted as well as mixed evidence on the effectiveness of healthy living programs among newcomers.

In part two, key stakeholders in community organizations that serve newcomer families were interviewed. The interview sought stakeholder views on the challenges newcomer families face related to healthy eating and physical activity, ways in which the HT program can be optimized for newcomer families, and how the HT program can be modified to facilitate social connections and cultural sensitivity. The key stakeholders described the challenges newcomers face in maintaining healthy lifestyles. These include a lack of understanding of what constitutes healthy eating and physical activity, lack of knowledge about Canadian foods, literacy challenges that makes it difficult for newcomers to read/understand HT materials and to read food labels, lack of funds to purchase healthy foods, and poor access to traditional foods. Other challenges include the

weather conditions that make outdoor physical activities difficult and the cultural differences between immigrant groups. The cost of funding the HT program was also viewed as a barrier to supporting families. Drawing on their experience in working with newcomers, the stakeholders provided suggestions on how to overcome these challenges. The challenges, as well as stakeholder suggestions, helped to inform recommendations for adapting the HT materials and facilitator training to support newcomer families in Canada.

Introduction

Immigration has been identified as a critical strategy for stimulating Canada's economic growth. It is also regarded as the best solution to sustain the aging population. According to the 2016 population census, immigrants make up approximately 21% of the Canadian population. The number of immigrants are expected to grow over the coming years as Canada is planning to take in an additional 1.2 people by 2023 (IRCC, 2020). Immigrants typically arrive with relatively fewer health problems compared to Canadian-born, a phenomenon known as the 'healthy immigrant effect'(Sanou et al., 2014). However, a few years after settlement, immigrants tend to experience a rapid decline in their health status as often reflected in increased obesity and high incidence of chronic diseases. The "healthy immigrant effect" is also common in other common destination countries for immigrants such as Australia and the United States (Vang et al., 2017). Immigrants may be particularly vulnerable to poor health partly because of family disruptions, limited access to healthcare, poor nutrition, and physical inactivity in their destination country.

To improve the health and wellbeing of newcomers, various health promotion programs focusing on healthy eating and active living, including the Healthy Together (HT) program in Canada, have been developed to obviate the health challenges faced by this group of people (*Healthy Together*, n.d.). Though newcomers might have been the focus of some programs, many of them have not been specifically adapted to their particular needs. Yet, the success of any prevention program depends on its ability to meet the unique needs of the target group. In other words, to enhance the health and wellbeing of newcomers in their host country, health promotion programs must take into account the needs of families as well as their ethno-cultural practices and preferences related to food and physical activity, and experiences before arrival in Canada and during resettlement that may influence newcomer wellbeing. Therefore, the purpose of this project is to identify ways in which a health promotion program in Canada called Healthy Together can be adapted to meet the needs of newcomer families to Canada. The project included two parts: a) a literature review to summarize what is known about newcomer perspectives regarding healthy eating and physical activities, and the effectiveness of selected programs adapted for newcomer families to support healthy living, and b) interviews with key stakeholders of the community organizations that serve newcomers to Canada to solicit their views on newcomer needs, the challenges they face, cultural sensitivities, and ways in which programs can be adapted to meet the needs of this group. Based on the information gathered, recommendations were developed to guide adaptations to the Healthy Together program for newcomer families in Canada. This project is important because learning and valuing the knowledge, culture, and experiences of newcomers as well as the program providing services to them is crucial to improving the health and wellbeing of immigrants and that of the entire society (Goodkind, 2006).

Project Part One. Literature Review

To understand the nature and extent of the research activities related to the physical activity and nutritional habits of newcomer immigrants, we undertook a review of the literature published mainly within the last 10 years. The review was conducted in two parts. Part one focused on newcomer perspectives on healthy eating and physical activities while Part two reported on the effectiveness of healthy eating programs for newcomer families.

Literature review Part 1

We searched three databases; namely Cumulative Index of Nursing and Allied Health Literature (CINAHL), Embase, and Webs of Science. Each database was searched using the following keywords (Food habits, OR Food preferences OR cooking activity) AND (immigrants OR newcomers OR refugees) AND (physical activity OR physical exercise OR exercising). The search was limited mainly to the literature in North America (i.e. United States and Canada). Papers were included if they contained immigrant or newcomer perspectives on nutrition/food habits or physical activity, discussed a nutritional or physical activity program for newcomers, and were conducted in the English language. Papers were excluded if they were; focused on native Canadians, third-generation immigrants, Indigenous populations, and written in a language other than English. The database search yielded a total of 211 articles when the search was limited to literature in the USA and Canada. The search results were exported to an endnote file. Ninety-seven (97) duplicates were removed. Eighty-eight (88) articles were removed following the title and abstract review. A full-text review was finally conducted on 26 articles and 18 papers met the inclusion criteria (see Table 1). For this review, we provide a summary of what is known about immigrant/newcomer socialization, food habits, and physical activity experiences during resettlement in Canada or the US. Extracted information was entered into Microsoft excel.

Table 1 Characteristics of included publications

	Study/ country	Aim/objective Study type	Focus	Immigrant population	Conclusion/ recommendation
1	Aljaroudi, et al (2019). Canada	To assess Arab Muslim immigrant mothers' acculturation level and the link between acculturation level and	Healthy eating	First-generation Arab Muslim mothers	They recommended Arab Muslim mothers may need to enroll in programs that are designed for Arab Muslim immigrants to teach them healthy food choices and how to use

		experiences of dietary changes, Mixed-method exploratory study			alternative food materials that reflect their cultural identities
2	Tiedje, K. et al. (2014). USA	To describe the meaning of food health and wellbeing through reported dietary preferences, beliefs, and practices of adults and adolescents in immigrant communities. Exploratory focus group study	Healthy eating	Adolescents and adults who self-identify as Mexican, Somali, Sudanese, and Cambodian.	The findings indicate that personal, structural, and societal factors work together to shape food preferences, and practices of Somali, Mexican, Sudanese, and Cambodian immigrant populations in the US
3	Wieland, M.L. et al. (2015). USA	To explore perceptions of physical activity among immigrants in the United States. Descriptive exploratory study	Physical activity	Immigrants from Somalia, Mexico, and Cambodia	The findings suggest that shared experiences of immigration, and associated social, economic, and linguistic factors influence how physical activity is understood, conceptualized, and practiced
4	Chapman, G. et al. (2011). Canada	To examine the meanings of food, health, and wellbeing that are embedded in the food practices of Punjabi families living in Vancouver. Descriptive exploratory qualitative study	Healthy eating	Members of 12 families of Punjabi Sikh origin aged 13 to 70	The findings add to an understanding of the ways food practices are used in constructing ethnic identities and health behaviours. The findings also have implications for nutrition education of Punjabi newcomers to western countries including findings ways to emphasize the positive aspects of Indian foods and food preparation methods that are considered healthy and acceptable to newcomers. This could include promoting the centrality

					of vegetable dishes and highlighting lower fat ways of preparing these dishes
5	Vue, W., Wolff, C., & Goto, K. (2011). USA	To examine perspective on food habits, acculturation, and health among Hmong women with young children in northern California. Grounded theory study	Healthy eating	Hmong women and their children in California	Hmong foods have been identified as a source of self-identity, social support, and a healthful lifestyle. However, they were gradually adopting western foods due to acculturation. Therefore, adopting the healthful aspects of Hmong foods and the healthful aspects of westerns foods should be the focus of nutrition programs
6	Ristovski-Slijepce et al. (2010). Canada	To explore how official dietary guidelines provide regarding healthy eating tends to marginalize other food habits and the relationship between food and health. Qualitative exploratory study	Healthy eating	Ethno-cultural groups in Canada: European Canadian, Punjabi, and African	Young and older people may have different food preferences, and mothers felt personally responsible for providing healthy foods while guarding their children against poor nutrition. Through young people, western food guidelines may get into the family, thereby making families marginalize other food habits.
7	Sanou, D., et al. (2014). Canada	This scoping review aimed to identify knowledge gaps and research priorities related to immigrants' nutritional habits in Canada. Systematic review	Healthy eating	Newcomers and immigrants to Canada	The findings confirmed the healthy immigrants' effect while revealing that gaps in nutritional health persist, thereby creating barriers to health promotion among immigrant groups
8	Banerjee, A.T., et al. (2017). Canada	To examine the feasibility, acceptability, and effectiveness of a mosque-based physical activity program among Muslim women in Canada.	Physical activity	South Asian Muslim Women	There was a demonstrable increase in the mean score for self-efficacy and the importance of engaging in exercise. They recommended the establishment of culturally relevant structured networks such as mosques for Muslim immigrants.

		Pilot feasibility and acceptability study			
9	Dawson-Hahn, E., et al. (2020). USA	To explore perspectives on healthy eating and physical activity among immigrant parents with young children before and after immigration. Exploratory focus group study	Physical activity & Healthy eating	Arabs, Somali, Burmese, Nepali, and Dari immigrants	Key nutritional focus areas such as access to fresh foods, safe places for physical activity, and feeding practices for families with food scarcity histories should be emphasized in programs that deal with newcomer immigrants.
10	Oliffe, J.L. et al. (2010) Canada	To examine the connection between masculinities and diet to reveal how varying gender ideals can influence the practices of Punjabi immigrants practices including the use of specific food and beverages. Descriptive correlational study	Healthy eating	Punjabi Sikh immigrants in Vancouver	Participants' masculine ideals were deeply rooted in their cultures which shaped the use of specific foods. These findings may direct how dietary information should be targeted towards seniors.
11	Azar, K.M. et al. (2013). USA	To explore the role that festival foods play in the regular diet of immigrants to the United States. Systematic review	Healthy eating	Immigrants in the USA	Culturally competent dietary patterns should maintain ethnic traditions while recognizing that stress can lead to the consumption of less nutritious foods
12	Banerjee, A.T. et al. (2014). Canada	To examine the association between frequency of mosque attendance and prevalence of coronary heart diseases, diabetes,	Physical activity	Muslim immigrants and Muslim Canadians in Saskatchewan	The odds of diabetes and hypertension were less for those who frequently attendance mosque

		and hypertension in Canada. Cross-sectional descriptive study			
13	Delisle, H. (2010) Canada	To identify healthy and cultural relevant dietary patterns that can help prevent diet-related diseases among immigrants. Cross-sectional, comparative study	Healthy eating	Newcomer immigrants from Africa	Health or prudent, as opposed to western eating habits, are common among immigrants. Immigrants believed that fish, cereals, and legumes were healthy, while sweets, processed meat, fried foods, fats, and oil were considered unhealthy. In short, the traditional diet was considered healthier.
14	Hassan, D. A.E., & Hekmat, S. (2012) Canada	To examine the food habits of Arab immigrants to determine if they maintained their traditional food habit or, moved on to a western diet. Descriptive qualitative study	Healthy eating	Arab immigrants in the greater Toronto area	Arab immigrants consume both traditional and western foods. They believed their current diet to be healthier than before they traveled to Canada
15	Holtzman, J.D. (2006). USA	To explore how food evokes a memory or act as a medium of exchange Literature review	Healthy eating	Immigrants in the United States	Foods tend to transmit powerful mnemonic cues, mostly through smells and tastes
16	Harrison, G.G., Kim, L.P., & Kagawa-Singer, M. (2007) USA	To design a health promotion program to promote physical activity and vegetable consumption among low Hmong immigrants. Descriptive qualitative study	Physical Activity & Healthy eating	Hmong immigrants in the United States	Physically activity and fresh foods are common are valued in Hmong culture. Chronic diseases can be prevented by reinforcing traditional eating habits and an active lifestyle in health promotion programs

17	Legault, A., & Marquis, M. (2014). Canada	To explore nutrition information-seeking behaviour of low-income pregnant Maghrebian women. Exploratory qualitative study	Healthy eating	Maghrebian women living in Montreal	Culture and interaction with individuals determine food beliefs, eating habits
18	Ferrari, M. (2009) Canada	To determine the relevance of exiting health education materials dealing with healthy living, active living, and body images. Focus group study	Healthy eating & physical activity	Immigrant mothers from Sri Lanka and china	Immigrant mothers expressed their preference for health education materials to be undertaken in a culturally relevant manner

Description of the included studies

Many of the 18 studies involved parents and their children while two studies involved women's perspectives on their food preferences. Except for two studies, all the studies were published between 2010 and 2020. Eleven studies were focused on newcomers to Canada while seven were focused on newcomers in the United States. Sixteen studies were original publications while three were review papers (Azar et al., 2013; Holtzman, 2006; Sanou et al., 2014). Twelve papers were focused on healthy eating or the nutritional habits of immigrants, four focused on physical activity, and two explored both physical activity and healthy eating. Though some studies discussed how physical activity or nutritional habits could promote socialization, none of the studies exclusively addressed the socialization aspects of newcomers. Nearly all the studies considered first-generation immigrants, while some addressed the eating habits and physical activity habits of children born to immigrants. A significant proportion of the studies involved immigrants from South Asia (Pakistan, Indians, Bangladesh, and Sri Lanka) and China, and a few focused on immigrants from Mexico, and sub-Saharan Africa, particularly Somalia, Ethiopia, and Eritrea.

Healthy eating

Consistent across studies was the desire among newcomers to maintain their traditional food habits to some degree. Punjabi immigrants living in Vancouver, to a large extent, maintained their

traditional vegetarian, plant-based, and high carbohydrate diet (Chapman et al., 2011; Oliffe et al., 2010). Arab migrants in Toronto maintained their traditional Halal foods and Arab vegetable diet (Aljaroudi et al., 2019). While Somali, Sudanese, Cambodian, and Mexican immigrants living in Minnesota maintained their traditional food habits to a large extent. Many pregnant Maghrebi women living in Montreal largely maintained their traditional diet, though researchers observed that environmental factors and low-income levels might have influenced some women's desire to incorporate Canadian foods in their diet (Legault & Marquis, 2014).

Several reasons may account for why immigrants may try to maintain their traditional food habits in destination countries. Among some groups, such as Chinese Americans, a traditional diet is often considered to be healthier than the western diet (Liou & Bauer, 2010). Others have pointed to the link between traditional foods and people's cultural identity (Aljaroudi et al., 2019; Azar et al., 2013; Chapman et al., 2011; Legault & Marquis, 2014; Tiedje et al., 2014; Vue et al., 2011). Moreover, food may be understood as a cultural construct that could serve as a marker for families as well as a reminder for immigrants' cultural past (Azar et al., 2013). For instance, Holtzman (2006, p. 367) described 'the longing evoked in diasporic individuals by the smells and tastes of a lost homeland, providing a temporary return to a time when their lives were not fragmented'.

Aside from the cultural reasons for maintaining traditional foods, some immigrants may also be consuming traditional food because they lack knowledge about Canadian food. A review of health education materials dealing with healthy eating among Sri Lanka and Chinese immigrants in Toronto revealed that mothers did not completely understand the materials including the Canadian Food Guide (Ferrari et al., 2009). Secondly, unfamiliarity with Canadian foods, inadequate knowledge regarding the nutritional value of Canadian foods, and the food cooking techniques was reported as some of the reasons why some Chinese and Indian newcomers living in Canada prefer to continue with their traditional foods habits (Sanou et al., 2014). Though immigrants may generally have less knowledge of Canadian food habits, recent newcomers were more likely to lack adequate knowledge of the nutritional value of Canadian foods (Sanou et al., 2014). Typical western eating habits such as set times for meals may also be unfamiliar to some newcomers where the norm is to eat when hungry and foods are not restricted to certain meals (Vue et al. 2011).

Four studies highlighted the important role of women in maintaining traditional food culture and ensuring that the family eats healthy foods (Aljaroudi et al., 2019; Ristovski-Slijepcevic et al., 2010; Tiedje et al., 2014; Vue et al., 2011). Parents, in particular, felt that they had an important role to play in maintaining cultural identity through feeding their children with or inculcating in their children traditional food habits (Aljaroudi et al., 2019; Vue et al., 2011). Mothers of African

and Punjabi immigrants in Nova Scotia and British Columbia specifically saw themselves as responsible for providing information and sources of nutritious foods as well as guarding their children against poor nutritional habits (Ristovski-Slijepcevic et al., 2010). According to Aljaroudi et al. (2019), in situations where children's nutritional preferences might have differed from what their mothers recommend or provide, meal-time conflicts were likely to arise. Immigrant families also see traditional foods as a way of promoting family togetherness and dealing with the stressors of adapting to a new culture (Azar et al., 2013). Despite the willingness to maintain traditional foods among immigrants, researchers have reported openness to adopt new foods and healthy food preparation methods alongside maintaining traditional foods (Aljaroudi et al., 2019).

As culture plays a critical role in immigrants' choice of food and eating habits, culture sensitivity should be considered in the design of healthy eating programs. Institutions where meals may be prepared such as schools and community organizations that serve newcomers must be aware of the unique needs of a diverse ethnocultural community to facilitate a culturally sensitive program (Hesketh et al., 2017). Sri Lanka and Chinese immigrants living in the greater Toronto area expressed their preference for health education materials, and the Canadian Food Guide, in particular, to be developed in a culturally-relevant and participatory manner (Ferrari et al., 2009).

Despite newcomers' desire to maintain their culture through traditional food habits, they were more likely to adopt western food overtime in their host country (El Hassan & Hekmat, 2012; Sanou et al., 2014; Tiedje et al., 2014; Vue et al., 2011). This transition could be attributed to the role of dietary acculturation among newcomers in their host countries (Sanou et al., 2014). Dietary acculturation refers to the process in which immigrants adopt the dietary habits of their destination countries. The transition in dietary habits has been reported to account for the rapid decline in newcomer health following migration (Sanou et al., 2014). The decline in health is not because western foods are unhealthy, it is partly because immigrants tend to consume "unhealthy" western foods believing that they are "healthy" (Tiedje et al., 2014). Therefore, though immigrants may try as much as possible to maintain their traditional foods, they tend to gradually adopt western food habits that are generally considered unhealthy. For instance, a study by Aljaroudi et al. (2019) revealed that Arab women began to gradually adopt a western-style, easy to prepare foods such as grilled chicken, meatballs, fries, pizza, and nuggets mainly because of the unavailability or cost of traditional foods. To promote the health of Arab women, Aljaroudi et al. (2019) recommended that Arab women enroll in programs that teach about foods available in Canada and how to use these foods to prepare healthy meals, and how to use alternative ingredients to provide traditional foods for their families.

Variations in food habits

Several factors that influence immigrants' food choices were described in the literature. These factors include the time spent in the destination country, age of family members, food preferences, health concerns, work schedules, and food beliefs (Chapman et al., 2011). There were variations between elders' and young people's food habits. A study by Chapman et al. (2011) on the food preferences among Punjabi families in Vancouver reported that elders preferred traditional Indian food such as Roti (flatbread), dahl (lentils), and Subjee (vegetables), while young people wanted to have at least some western food as part of their meals. Roti, for instance, was considered more satisfying to adults than western foods. Similar results were obtained in Vue et al.'s (2011) study on the perspective of food culture and health among Hmong women and their children living in the United States. Though adults preferred traditional Hmong foods such as rice, children were more likely to prefer western food such as McDonald's, Pizza, and grilled chicken. The women in this study indicated that eating western foods alone did not satisfy their appetites, in contrast to Hmong food that they perceived as more filling and energy-dense. For these families, meals were not complete unless they included rice. Variations in perceptions of suitable food portions were also evident.

Barriers to healthy eating

Though immigrants often prefer traditional foods to western foods, several factors, including time constraints, cost of traditional foods, and change in the supply and availability of traditional foods influence a cultural shift towards western foods (Azar et al., 2013). As most newcomers are likely to come from low-income countries in South Asia, the middle east, and sub-Saharan Africa (Azar et al., 2013), the cost of traditional foods as well as healthy Canadian foods may pose a peculiar challenge for low-income families. In Aljaroudi et al.'s (2019) study, Arab Muslim women in Canada preferred Halal foods (i.e. foods that are considered lawful in their culture) and fresh vegetables but these were expensive or unavailable at some places. There were also concerns about differences in the taste of fruits and vegetables available in Canadian shops, and whether this might be linked to any food chemicals. More than 40% of women in Aljaroudi et al.'s (2019) study reported cooking with frozen foods due to the cost or the unavailability of fresh traditional Arab vegetables in the Canadian market, especially during the winter. For other groups, low socio-economic status has been a major factor in transitioning to western foods because foods such as processed meat and refined carbohydrates are relatively cheaper, readily available, and convenient to prepare than traditional foods (Azar et al., 2013; Delisle, 2010). While some western food such as fast foods may be considered unhealthy, some Arab immigrants in Canada, who consumed western foods perceived it to be healthier than the food available in their home

country before immigration (El Hassan & Hekmat, 2012). According to them, some food items in the Canadian market are quite cheaper than their previous country (ibid).

Aside from the cost of traditional foods, newcomers may not have sufficient time, types of cooking equipment, or may not live in the right home environments that would allow them to prepare traditional meals. Newcomers from Somalia, Mexico, Cambodia, and Sudan living in the Midwestern United States specifically indicated a lack of time as a major reason why they chose to eat western-style fast foods (Tiedje et al., 2014). Another study by Oliffe et al. (2010) also revealed changes in the home environment and unavailability of the right cooking equipment as some of the barriers against healthy eating among Punjabi men in Canada. Even when all these barriers may be overcome at some point in time, the sheer difficulty involved in preparing some traditional foods may demotivate immigrants to prepare traditional dishes (Azar et al., 2013). For convenience sake, easy-to-prepare, western-style foods such as grilled chicken, nuggets, fries, pizza, and waffles may be chosen in place of traditional meals. In summary, these studies indicate that though western fast foods may be considered unhealthy, the time constraints, cost of traditional foods, and the role of acculturation may ultimately lead immigrants to consume a mixture of both traditional and western diet (El Hassan & Hekmat, 2012), or in the case of children, to ultimately consume more western diet (Tiedje et al., 2014).

Physical activity

Six studies reported that newcomers are generally less active after immigration (Banerjee et al., 2014, 2017; Dawson-Hahn et al., 2020; Kim et al., 2007; Sanou et al., 2014; Wieland et al., 2013). The reduced levels of physical activity were generally attributed to the sedentary lifestyle of western life, lack of physical space for physical activity (Wieland et al., 2013), and perceptions that neighborhoods in Canada are less safe for exercise than what they experienced in their home countries (Dawson-Hahn et al., 2020; Renzaho et al., 2012). While the benefits of physical activity may be well recognized by immigrants, lack of familiarity and discomfort with western ways of physical activities was also recognized as a significant barrier to remaining physically active (Wieland et al., 2013). Newcomers typically thought of physical activities in terms of outdoor activities including jogging, sports, and household chores, although this was influenced by gender and age. While females were likely to associate physical activities with household chores, males viewed physical activity as engaging in sports and hard labour. Similarly, children were likely to associate physical activity with exercise and sports, and adults equated physical activity with work and recreational activities. Lack of time, lack of space or organized sports program, and money to engage in physical activities were cited as major reasons why Hmong Community in America do not frequently engage in physical activities (Kim et al., 2007). Parents

specifically stated a lack of money and time to respectively pay for and supervise their children in exercise programs as a deterrent to physical activities. Another important barrier to physical activities may be due to the weather conditions (winter), language barriers, and a lack of knowledge about available physical activity programs within newcomer localities (Kim et al., 2007; Wieland et al., 2013).

Recommendations for physical activities

To improve the physical health of immigrants, Dawson-Hahn et al. (2020) suggested that physical activity programs should support newcomers to engage in exercises they consider safe enough and appropriate to their age and gender. The provision of cultural and gender-appropriate physical activity programs, such as women-only sessions, has also been recommended as a way of eliminating gender disparity in physical activity among newcomers with strong religious beliefs (Banerjee et al., 2014). Kim et al. (2007) recommended the creation of free public parks and public spaces to cater to the exercise needs of newcomers who may not have space nor money to engage in or pay for organized physical activity programs. Instead of allowing only children to exercise, Kim et al. (2007) also recommended that parents be encouraged to engage in physical activities with their children as a way of encouraging children to be physically active. Additionally, having school and after-school programs, tournaments, and community services supervised by teachers/volunteers was seen as a way of removing the time, financial and logistical barriers to engaging in physical activity (Kim et al., 2007). Banerjee et al. (2017) examined the feasibility, acceptability, and effectiveness of a mosque-based physical activity intervention among South-Asian Muslim women in Toronto. There were increased self-efficacy and improved functional quality of life following the intervention. This study demonstrated the importance of culturally-relevant and structured networks in promoting physical activities among newcomers. Due to intercultural differences, physical activity program developers are advised to start with the identification of commonalities and differences between groups so that programs do not inadvertently exclude any sub-group (Tremblay et al., 2006).

Effectiveness of Healthy Lifestyle Interventions

As immigrants gradually acculturate into a new culture in Canada, their physical activity and dietary habits are likely to be less healthy than the non-immigrant population in the long term (Gadd et al., 2005). Therefore, interventions to increase physical activity and promote healthy nutrition during the initial years of settlement may be particularly helpful in enhancing the wellbeing of immigrants in subsequent years. While interventions to increase physical activity and improve nutrition among newcomer populations are increasingly being offered, some of them have not been specifically tailored to immigrant populations, and their effectiveness been

not been ascertained. This section of the literature review explores programs that have been developed or evaluated for immigrant families to support healthy lifestyles. Programs that have shown an improvement in health outcomes have been adapted for immigrant populations in various settings.

An overview of included studies

A basic search of the literature was conducted to identify relevant studies that adapted or evaluated healthy living programs. Thirteen studies were identified – all published after 2010. Five studies were randomized control design, two were cross-sectional studies, one was an observational study (O'Connor et al., 2020), a systematic review (Tovar et al., 2014), two were quasi-experimental studies (Ayala, Ibarra, Horton, et al., 2015; Yin et al., 2012), and a mixed-methods feasibility study (Stern et al., 2021). Seven studies focused on both healthy eating and physical activities while six were specifically related to healthy eating. Majority of the studies evaluated programs for Latino and Hispanic immigrants while two studies evaluated an intervention developed for Sudanese and Somalian newcomers (Hull et al., 2018; Wieland et al., 2016). Table 2 below shows the study characteristics for this part of the literature review.

Table 2 Characteristics of included studies focused on programs to support healthy lifestyles among newcomer and immigrant families

	Study/ country	Aim/objective/ Study type	Focus	Immigrant population	Conclusion/ recommendation
1	O'Connor et al (2020). USA	To examine Hispanic families' perceptions about a health promotion program known as Healthy Dads Healthy Kids and solicit suggestions on how to culturally adapt the program. Qualitative study	Healthy eating/ Physical activity	Hispanic families	Several barriers to engagement in programs including lack of time, physically demanding jobs emerged. Weekly videos and Facebook were seen as favorable alternatives to engage newcomers in this program.
2	Tovar, A, et al. (2014). USA	To assess the effectiveness of obesity prevention and control programs among young immigrants from	Healthy eating	Latino/Predominantly Mexican immigrants.	Among the 20 studies that met the inclusion criteria, only five had an effect on obesity-related outcomes. There is a paucity of

		childhood to adulthood in the United States. Systematic review			data on effective interventions that address obesity
3	Ayala et al (2015) USA	To examine the combined effect of 2 evidence-based health communication strategies on promoting healthy eating among immigrant families Quasi-experimental study	Healthy eating	Mexican immigrants	The program was found to engage families and improve their diet.
4	Schmied, et al. (2015). USA	To examine the implementation of "The Entre Familia" health promotion program and assess the relationship between implementation factors and dietary changes. Randomized control design	Healthy Eating	Latino newcomers in the United States	The findings reveal that families' engagement in programs and support from social networks may improve change. There were also positive relationships between specific interventions and dietary changes.
5	Kobel, S. et al. (2016). USA	To investigate a one-year intervention for increasing physical activity and promoting healthy eating among children. Randomized control design	Healthy eating / Physical activity	Children with migration backgrounds	The intervention was found to reach children with migration backgrounds but marginal effects were found. A long period of the intervention (more than 1 year) might result in more positive changes in healthy eating and physical activities.
6	Yin Z. (2012). USA	To test the effectiveness of a culturally tailored obesity prevention intervention in low-come preschool immigrants.	Healthy eating	Mexican American children	The program shows greater promise in improving the weight and gross motor skills development in children at risk for obesity.

		Quasi-experimental study			
7	Wieland M. (2016). USA	To evaluate a physical activity and nutrition intervention program for immigrant and refugee families. Randomized control design	Healthy eating/Physical activity	Hispanic, Somali, and Sudanese immigrants	The findings show that 45.7% of adolescents and 80% of adults were still obese following the intervention.
8	Hull P. (2018). USA	To assess the efficacy of a culturally-tailored weight gain prevention program for Hispanic immigrant families with children aged 5-7 years. Cluster randomized design	Healthy eating/physical activity	Hispanic Immigrants	The average BMI for the intervention group did not differ significantly from the control group.
9	Wieland, M. (2018) USA	To evaluate healthy eating and physical activity for immigrant families. Randomized control trial	Healthy eating/physical activity	Hispanic, Somali, and Sudanese immigrants	The intervention produced a sustained dietary improvement among adults but not adolescents
10	Stern, M. (2020)	To determine the feasibility and acceptability of a multi-family behavioural intervention program known as ADAPT. Mixed method study	Healthy eating	Latino migrants	Participants expressed great interest in participants but also reported key facilitators and barriers that can facilitate as well as impede the adoption of the program
11	Arredondo et al., (2018)	To test the effectiveness of the "entre familia" program after 2 years of implementation. Descriptive cross-sectional study	Healthy eating	Mexican children	There was a sustained increase in the intake of vegetables among young people in a 10month follow-up period.

12	Kobel et al. (2019)	To compare the physical activity and weight levels of children with migration backgrounds and children without migration backgrounds after a health promotion intervention. Descriptive correlational study	Healthy eating/ Physical activity	German Children	Children with a migration background were less physically active than those without a migration background. They also have a higher risk of e=developing secondary diseases than those without a migration background.
13	Bottorff et al., (2020)	To evaluate Healthy Together in a real-world scale-up phase. Cross-sectional study	Healthy Eating/physical activity	Newcomer families to Canada	The findings revealed an improvement in healthy eating, physical activities, and social connections among immigrants in community organizations that support newcomers

Intervention effectiveness

Despite the existence of several interventions to promote healthy eating and physical activity, there have been mixed findings regarding the effectiveness of healthy lifestyle programs among immigrant populations (Sanou et al., 2014). A systematic review of obesity prevention interventions among a largely Latino immigrant population in the US found some interventions to have a positive effect on obesity-related outcomes among adults and children (Tovar et al., 2014). The majority of the studies in this review used educational and family health promotion strategies to target both physical activity and nutrition habits. Almost half of the studies in this systematic review were pilot studies.

There are other examples where successful healthy lifestyle programs have been adapted for immigrant families in other settings. For example, a randomized control trial of a healthy lifestyle program in Australia, known as 'Healthy Dads Healthy Kids (HDHK)' has demonstrated significant positive effects on fathers' weight loss and improved well-being of both fathers and their children (Morgan et al., 2011, 2014). This program, which aimed to promote physical activity, healthy eating, and weight loss for overweight fathers and their children, has demonstrated a reduction in the weight of fathers while influencing children's eating and physical activity habits. Owing to the successes of this program, HDHK was later adapted to Hispanic families in the United States (O'Connor et al., 2020) as well as other ethnically diverse groups in the United Kingdom (Jolly et

al., 2020). The cultural adaptations included decreasing the literacy levels, integrating cultural values, and addressing the barriers to participation. The program in both settings was specifically tailored to immigrant groups without losing its core components. For healthy lifestyle programs to have a meaningful reduction in obesity outcomes, Peña et al. (2012) suggested such programs should recognize the ethnic and culture-specific practices and beliefs, the role of family ties, people's beliefs regarding the cause of obesity, and provision of linguistic and culturally appropriate care.

Another family-based healthy lifestyle intervention designed to improve the dietary intake (specifically, vegetables) of Latino immigrants in the United States has demonstrated a significant increase in vegetable intake, dietary fiber intake, and a reduced-fat intake in four months from the baseline (Ayala, Ibarra, Horton, et al., 2015). An impact assessment of the same program among immigrant children also demonstrated an increased consumption of fruits and vegetables and a reduced intake of fast food among the intervention group (Ayala, Ibarra, Horton, et al., 2015; Horton et al., 2013). A process evaluation of this program shows intervention fidelity while supporting the need for the program to be implemented in other settings including the clinical settings (Schmied et al., 2015). This program, which used an entertainment-education strategy also suggests that maintaining social networks and obtaining supports from such networks may improve fruit and vegetable consumption among newcomers (ibid). While a process evaluation is being conducted among other groups, efforts are underway to test and assess the cost-effectiveness of an adapted version of the program as part of an Obesity Care Model funded by a federal health agency (Ayala, Ibarra, Binggeli-Vallarta, et al., 2015). A 10-month follow-up data on this program to investigate the interventions' effect on dietary intake and changes in mothers' dietary intake revealed a sustained intervention effect in children's intake of vegetables (Arredondo et al., 2018).

Finally, an evaluation of a family health promotion program in Canada known as Healthy Together was conducted. Although the program was not specifically designed for newcomers, facilitators were encouraged to adapt the program to the needs of newcomers attending HT group sessions. End-of-program feedback from newcomer participants indicated that they enjoyed the HT program and they reported improvement in healthy eating, physical activities, and social connections (Bottorff et al., 2020). Facilitators and participants provided important suggestions for future adaptations of the program for newcomer families. These included providing low literacy program resources, cooking activities that enabled sourcing foods (or suitable substitutes) for culturally diverse recipes, accommodating religious and cultural dietary restrictions, and providing a safe and inclusive environment to enable families to explore healthy eating and physical activity from a Canadian perspective. The flexibility and adaptability of the HT program for implementation in diverse contexts were recognized as a strength of the program

design. The preliminary findings from these studies suggest that interventions can be successfully adapted and tailored to a specific group to achieve similar or better outcomes as that of the original program.

Health promotion programs that were specifically tailored to immigrant populations have also been evaluated. A culturally adapted obesity prevention pilot program known as Active Healthy Families was designed to prevent obesity among Hispanic families with elementary school children. A randomized control trial of this pilot study has demonstrated no significant difference between the intervention and the control group (Hull et al., 2018). Other health programs for immigrant families have shown different outcomes among adults and children (Wieland et al., 2018). A randomized control trial of healthy eating and a physical activity intervention program among immigrant Hispanic, Somali, and Sudanese immigrants has demonstrated a significant improvement in the healthy eating index among adults (Wieland et al., 2018). No difference in healthy eating was observed for children and no difference in physical activity among both adults and children. The reasons interventions may not substantially improve obesity outcomes among some immigrant age-groups could be attributed to the fact that the health issues of immigrants are multiple, complex, and poorly understood (Dunn & Dyck, 2000; Malmusi et al., 2010). The impact of acculturation, health literacy, and the socio-economic level of immigrants highlights the complexity of immigrant health (Walker et al., 2015). Another study tested the effectiveness of a culturally tailored obesity prevention program among low-income Mexican immigrant pre-school children in a quasi-experimental pretest/post-test design (Yin et al., 2012). The findings of this study demonstrated promise in creating the necessary environment to positively impact weight loss and gross motor development in children at risk of developing obesity. By this, the program employed theories of early childhood development and a systems approach including staff wellness, parents' education, and cultural integration to help young people change their eating and physical activity habits.

Other interventions were not only designed to promote immigrant children's physical activity or healthy eating but include other components that support wellbeing (Dreyhaupt et al., 2012; Kobel et al., 2017). 'Join the Health Boat', is a school-based health promotion program to increase physical activity, promote fruits and vegetable intake, and decrease screen time and consumption of soft drinks (Kobel et al., 2017). Evaluations of this one-year intervention suggest a moderate reduction in daily screen media time, and a marginal improvement in physical activity in children with migration backgrounds (Kobel et al., 2017). However, a follow-up cross-sectional study shows that children with a migration background were more likely to be less physically active, and at a higher risk of developing secondary diseases than children without a migration background (Kobel et al., 2019). The findings from this latest study suggest that the intervention did not produce a sustained improvement in physical activity or reduction in screen time.

The evidence presented in this section suggests mixed findings regarding the effectiveness of healthy lifestyle interventions to improve the health of immigrant families. While several factors might have accounted for the ineffectiveness in some programs, it could be argued that in some cases programs were not adequately adapted to suit the newcomer groups they serve. These findings, along with the promising preliminary findings regarding newcomer experiences of the HT program, support the need to identify ways in which the Healthy Together program can be optimized for newcomer families in Canada.

Project Part Two- Key Stakeholder Perspectives

In the second part of this project, we interviewed key stakeholders of community organizations that serve newcomer families in Canada. A purposive sample of stakeholders were invited by the project mentor to participate in the project. The interview guide was developed jointly with the project mentors and assessed stakeholders' views on newcomer family needs regarding healthy eating and physical activity, the challenges newcomers experience related to healthy eating and engaging in physical activities, and suggestions on how existing programs can be adapted for newcomer families transitioning to life in Canada. The interviews were conducted via Zoom and saved onto a password-protected computer for analysis. We listened to the audio transcript and wrote down important responses related to the objectives of this project. Content analysis was conducted to identify themes related to the project objectives.

A total of nine stakeholders (and in some cases, program facilitators) of community organizations across Canada were interviewed. While some community organizations were solely focused on newcomers, the majority of them were focused on improving the health and wellbeing of both Canadians and newcomers. The organizations generally provide services to newcomers from different countries around the world but families that most often use their services were reported to be immigrants from countries in sub-Saharan Africa (Somalia, Eritrea, Ethiopia), the middle east (Iran, Syria), Asia (China, Pakistan, India), Brazil, and the Americas (Mexico and Brazil). The families served were on average moderate in size with children ranging from an average of 2-3 per family. Newcomer mothers and their children were most often involved in programs, though men occasionally attend some sessions.

Themes

Stakeholders shared observations about the various ways newcomers learn about healthy food choices, the barriers newcomer families experience related to healthy eating and physical activity, the challenges experienced in finding preferred food and exercise programs, and

suggestions on how programs can be adapted for newcomers families. The perspectives of these community-based representatives are organized according to three major themes.

Theme 1: Barriers to healthy eating and physical activities.

Stakeholders consistently reported on the barriers newcomers face in eating and maintaining a healthy diet, and engaging in physical activity. The major sub-theme was a lack of knowledge about what constitutes healthy foods and recommended physical activities. Other sub-themes were related to limited access to healthy traditional foods or foods that are familiar, and inadequate funds for newcomers to buy healthy foods. Finally, there were reports that organizations had difficulty securing funds to offer the HT program.

Lack of knowledge about healthy eating and physical activity.

Stakeholders consistently reported that many newcomers do not have adequate knowledge of what constitutes healthy food and physical activity in the first place. For example, some newcomers are more likely to eat "sweet" or "fatty" foods because they are considered "healthy" in their home countries. In effect, what is usually considered unhealthy in Canada is, paradoxically, considered healthy by some newcomers. This concern was commonly reported for Arab immigrants from countries in the Middle East where salty and fatty food are a common dietary practice.

Aside from a lack of knowledge about what is considered healthy foods in Canada, stakeholders also reported that many newcomers do not know "how much exercise one needs, what healthy weights are and the different activities that they can do to be physically active". As stakeholder 3 reported, many people face these challenges because "the form of physical activity programs in their home countries significantly contrasts with what exists in Canada". More importantly, lack of knowledge or information about the existence of the Healthy Together program itself was reported as a challenge that newcomers face in accessing the program. This challenge was reported for newcomers who settle in large cities in Canada. One stakeholder indicated that some newcomers usually express surprise that "programs like this existed and they did not know about it…… and coming to a new country where there are maybe friends, it is not easy to navigate your way to find such programs on your own".

Lack of knowledge about Canadian foods.

It was not just a lack of knowledge about what constitutes healthy foods, but stakeholders indicated that newcomers generally lack adequate knowledge about Canadian foods, the food guide contained in the HT toolkit, and how to prepare those foods. In the HT manual, as one stakeholder explained, "There'll be fruits or vegetables that some newcomers haven't seen

before and they don't know how to cook them". Also, some newcomers can be reluctant to prepare food that has been recommended to them until they try it out. One stakeholder stated: "People come to like what we teach them when they finally have a taste of it". Furthermore, packing lunch for children to go to school is a practice that some newcomers consider to be strange. "So how do you pack like a cold lunch or a hot lunch, and how do you, you know, what kind of thermostat you use….."

Lack of funds for newcomers and HT programs

Another significant theme that ran through all stakeholder interviews is the issue of inadequate funds for newcomer families to buy healthy foods, buy exercise equipment like bicycles, or register for professional gyms or recreational programs. The issue of lack of funds was seen as a major challenge among newcomers with large families. Even when such families have adequate knowledge of what they need to eat to stay healthy, they may not be able to buy healthy foods. One stakeholder explained, "[The priority is] just to get food, so healthy foods is less of a concern… So even though the HT manual may contain good resources, those resources aren't helpful if people cannot afford it". Purchasing healthy foods including fruits and vegetables was particularly challenging during winter when there is a general increase in prices of fresh products. Although some newcomers with limited financial resources may access frozen or cheaper canned foods, others were reported to rely on "sugary food" for their survival.

Aside from inadequate funds for families, lack of funds for community organizations to fund the HT program was also reported as a major challenge for program delivery. The lack of funds was viewed as particularly problematic when it affects the continuity of the HT programs at a time when the program is showing positive effects on the lives of newcomers. According to stakeholder 7, "Programs usually come to an end at a time newcomers begin to show some improvements in body weight and healthy eating". To this end, stakeholders indicated a need for ongoing program funding to ensure sustained improvement in newcomer family health.

Access to familiar foods

According to the stakeholders, a major challenge newcomers face, especially during their early days in Canada, is accessing foods that are familiar to them. First of all, many of the foods that may be familiar to newcomers are not likely to be found in the major grocery stores. Secondly, newcomers may not know where to locate local stores that sell foods that are familiar to them. Even when such stores are known to newcomers, the distances alone and the cost of commuting those long distances may be challenging, particularly for single-parent families with many children. As reported by stakeholder 4, "As a single parent, you're not going to take a toddler, an

infant on the bus for an hour and a half to get there to buy two bags of food, and then to come back on that bus another hour and a half. So availability within the community is number one".

Weather conditions

Weather conditions were reported as a major challenge for engaging in healthy eating and physical activities. There can be fewer options for fresh fruits and vegetables during the winter period, and they can be more expensive during these months. Most newcomers also see cold weather as a deterrent to engaging in outdoor physical activity. There was also difficulty with access to warm clothes and boots. Stakeholders also reported other barriers. For instance, one person stated some newcomers view "physical activity as not something associated with fun and mainly for children", and others described taboos around public physical activity for some women and children. Another challenge with engaging in physical activity has to do with newcomers who live in apartments without any backyards or convenient access to parks or playgrounds.

Theme 2: Literacy challenge

According to the stakeholders, the majority of newcomers have either limited English skills or in some cases, are illiterate. This makes it difficult to read or understand the information provided by HT or on food labels. Stakeholders also indicated that newcomers often find HT materials to be too wordy, voluminous, and difficult to understand even when they can speak English and definitely "too hard" for people to understand if English is their second language. The difficulty in understanding the materials was compounded by "a lack of translated materials". According to stakeholder 5, even though "health information from public health have translated materials in Chinese, in Persian sometimes, and even in Spanish, all the recipes and handouts from Healthy Together are in English". To reduce the literacy barriers stakeholders suggested that, instead of having written information on healthy foods and physical activities as resources in the HT program, the program should include resources with pictures that convey a vivid description of what participants need to know regarding healthy eating along with other low literacy materials. Though stakeholders indicated several strategies to improve HT for newcomers, they suggested that information should be well presented so as not to inadvertently stigmatize or exclude anyone. Stakeholder 7, for instance, stated that exercise programs should be inclusive and carefully and thoughtfully planned to avoid excluding or stigmatizing individuals who may have difficulty participating in activities (e.g., because they are overweight or obese).

Theme 3: Cultural differences and cultural sensitivity

Stakeholders indicated that given the diverse backgrounds of newcomers, there are always cultural differences among HT participants regarding dietary practices and forms of physical activity. Therefore, ensuring cultural sensitivity during programing was considered as a way of promoting inclusion, encouraging uptake of programs, and promoting social connections during service delivery. For instance, there were reports of cultural barriers around food such as no beef for some Punjabi immigrants, no pork and only halal food for people from mostly Arab countries, and taboos around frozen foods for some newcomers. Therefore, rather than "forcing" Canadian foods on newcomers, some organizations encourage HT participants to take on "leadership roles" and participate in deciding what cooking and exercise activities are included in the program. Advantages of this approach for HT participants included: "incorporating ethnic food in cooking activities," "increased engagement when families bring their own recipes to the group" and "feeling more connected to their community".

There was agreement that it was important not to make assumptions regarding people's eating preferences because of a country of origin. To ensure cultural sensitivity when uncertain about the dietary practices of HT participants, some organizations serve snacks that do not contain any meat products or have options for meat and non-meat snacks. For example, stakeholder 4 stated, "we give snacks containing fruits and vegetables so that we're not running into providing a snack where somebody wouldn't eat it". To enhance cultural sensitivity, one stakeholder suggested: "It's important for facilitators to listen, observe, introduce new families to other people, and participate alongside the activities HT participants are engaged in".

Stakeholders from community organizations also talked about cultural barriers surrounding physical activity including gender norms that make participation in some physical activities difficult for women. For instance, engaging in physical activities with the opposite sex was a major cultural issue for HT participants mostly of Arab origin. The stakeholders also reported that some cultural clothing women wear can be a barrier to engaging in physical activities, while others have observed that some newcomers believe it is inappropriate for adults to exercise with children. To support culturally sensitive programming, it was suggested that HT participants be invited to suggest physical activities they would enjoy and who should be involved. Stakeholder 5 explained how they provided a culturally safe place for physical activity: "Some women are very self-conscious around white people and male-dominated groups. Because our community center is visible from the outside…… we provide only female activities and make sure we cover the windows so that people can't see from outside". For women who may not be comfortable exercising with men or exercising in public spaces, some HT facilitators offered physical activity programming in women-only facilities or spaces.

Social connectivity

One important finding that was consistent across stakeholders was the social and emotional disconnect newcomers experience in Canada following the "cultural shock" associated with migration. This could be particularly difficult for newcomers that do not come to Canada with their full families, such as single mothers and their children. In such instances, stakeholders see engagement in HT programs as a way of fostering emotional connection and building a sense of community. The group activities in HT were viewed as a key vehicle for building social support and connectivity. For example, one stakeholder stated: "I think the group activity allows them to meet each other also, and to build social networks". Another stakeholder stated: "The group setting is a great way to talk about the different foods, and where the resources in the community are. It is also a place to find people from the same country…. so I would say group activities are the best." During group cooking activities, participants can share various ways of cooking, and share different cultural recipes. These group activities can also serve as a medium for those with good English proficiency to teach others. Aside from cooking together, group exercise activities are also seen as a way of promoting a sense of belonging for those without supporting family members. During HT sessions, for example, some organizations incorporated "music and dance traditions" of the various newcomer groups to enable participants to participate in cultural traditions with their children and others in the group. However, stakeholders noted that while group cooking and physical activity programs may be the best approach to HT, having group activities will be difficult in this pandemic. "Group setting is the best but right now, uh, with COVID, um"

Emotional support

Key stakeholders recognized that some newcomers may have experienced trauma (e.g., related to conflict, war, or deprivation), and that facilitators may not have the skills to offer the emotional support needed to support their transition to life in Canada. For instance, social workers or professional counselors may be needed to offer psychological and emotional support to newcomers who have experienced trauma. Stakeholder 7 specifically stated that "Because of the war in Syria, we had some people that came with a lot of trauma and stress but you know we don't have the skills to deal with that".

Summary

Our project activities provided an overview of the challenges that newcomers face in eating healthy foods and engaging in physical activity, as well as challenges in implementing Healthy

Together with newcomer families. The primary concerns identified were a lack of knowledge on what constitutes healthy eating and physical activity, inadequate knowledge about Canadian foods, lack of access to traditional foods, challenges newcomer families to experience living on low-incomes, and accommodating to a range of dietary preferences. Literacy challenges such as the inability to read labels on food items or to read the information provided by Healthy Together as well as the winter season were seen as barriers to newcomers taking up healthy lifestyles. The stakeholders suggested various ways in which the Healthy Together program can be adapted for newcomer families as well as several ways to overcome these challenges and ensure that Healthy Together is acceptable and effective with newcomer families including those with low-income levels. The specific challenges, as well as stakeholder suggestions, have informed several recommended strategies that can help HT facilitators to adapt the program to be more appropriate to newcomer families.

Recommendations

Drawing on the findings of our literature reviews and information provided by the stakeholders, recommendations for adapting the HT program for newcomer families were developed. The recommendations are grouped into three main sections including recommendations for HT facilitators, recommendations on how HT materials can be modified, and recommendations on ensuring cultural safety during HT sessions.

Recommendations for Healthy Together Facilitators

Content-related recommendations (Healthy Eating)

1. To support newcomers in understanding healthy eating in a Canadian context, it is important to differentiate healthy foods from junk foods. Providing multiple examples may be helpful in explaining what makes food healthy. Comparisons with traditional foods may also be helpful for some newcomer families. It may also be important to differentiate between "sweet healthy" foods (e.g., fresh fruit) and "sweet unhealthy" foods (e.g., icing-covered donuts). Information about recommended portion sizes and daily amounts may be important for newcomers who have experienced food scarcity or from contexts where meal times are not a common practice.
2. Providing a variety of low-cost healthy foods that are commonly available in Canada provides an important opportunity for newcomer families to make and try new foods in a supportive environment. As one stakeholder stated, "some immigrants tend to end up

liking Canadian foods when they try it". Importantly, ways to access low-cost foods and community resources to support food security will be important for many newcomers.

3. Alternatives foods such as canned fruits (preferably with no sugar content) or low sodium canned vegetables may be introduced to HT participants who may be averse to frozen foods or are unable to afford fresh fruits and vegetables during the winter season.
4. Suggesting readily available, affordable substitutes for ingredients needed to make healthy traditional foods may be important for some newcomer families, especially those who wish to teach their children about their traditional foods and maintain some cultural traditions.
5. Newcomer families can be invited to suggest healthy traditional foods to be included in HT sessions, and be supported in explaining and demonstrating how to make these foods to others in the group.
6. Individuals who have been through the experience of migration and resettlement in Canada can be invited to facilitate or co-facilitate HT sessions or provide guest sessions.
7. Facilitators should consider one-on-one family sessions for families who for some reason may not be willing or unable to attend HT group sessions.

Content-related recommendations (Physical Activities)

8. Introducing HT participants to school and after-school programs, tournaments, and community services supervised by teachers/volunteers in their community can be helpful in removing the time, financial and logistical barriers to engaging in physical activity for low-income families.
9. Including physical activities in HT programs that include activities in convenient outdoor areas (e.g, public parks) or other spaces can be used to introduce families to no-cost or low-cost physical activities that they can participate in anytime.

Program-Related Recommendation

10. Complementary tools such as YouTube may be used to deliver cooking/physical activity sessions to newcomers who may not be willing or unable to attend HT sessions. This will not only alleviate the effects of the pandemic on HT sessions but also enable people to continue to have access to HT when organizations don't have funds to deliver in-person group sessions.
11. When needed, HT facilitators should engage counselors and social workers who can offer support to newcomer immigrants who may be recovering from traumatic experiences and require professional services.
12. HT participants with limited English proficiency can be encouraged, when appropriate, to pair themselves with those who are fluent in English during sessions. For example, during

cooking activities, participants can help explain recipes to fellow participants and, in doing so, support cultural and community connections alongside extending English language skills.

13. Facilitators should take direction from newcomers about preferences for physical activity, and where possible include familiar activities (e.g., traditional dancing). Introducing low-cost, accessible forms of physical activity that are common in Canada in HT offers newcomer families a safe environment to try out types of activity they may not have engaged in previously. Providing information about accessing free recreational community programs or gyms should also be included given that newcomers may not be familiar with available services and programs.
14. Facilitators may need to explore opportunities for donor support for the HT program (e.g., food baskets from the Food Bank).

Recommendations on Healthy Together materials

1. HT information resources should be adapted for newcomers with low literacy skills. Short, common words and pictures can be used to effectively communicate information. For example, images of "healthy foods" and physical activities can be displayed to help those who may not be able to read written materials.
2. Stakeholders recommended that translator services during HT sessions may be appropriate in some cases to address language barriers and literacy challenges. Alternatives included preparing translations of key HT resources into several languages including Chinese, Arabic, and Spanish, and using video-recorded sessions (e.g., on YouTube) in different languages to support program delivery.

Recommendations for promoting cultural sensitivity

1. HT resources and programming should be reviewed to ensure cultural sensitivity. This may include adding cooking activities and recipes to incorporate cultural/traditional foods and physical activities that reflect cultural preferences. Also, adaptations to resources may be needed to support inclusion, reflect diversity (e.g., in images used), and equitable access to HT as well as resources to support healthy lifestyles for low-income families.
2. Members of cultural groups who participate in HT sessions should be given the opportunity to play active roles in program planning and delivery. This is supported by stakeholder 4, who stated: "We sit and we look at ourselves and we're predominantly white and we're not newcomers. We're planning the program without them…..it's not

balanced." Furthermore, opportunities should also be created for members of cultural groups who may be willing to volunteer during HT sessions.

3. Inclusivity, anti-racism, and anti-oppression practices should be reflected in the HT manual and materials as well as in the facilitator training program.
4. Snacks and foods provided at HT sessions should accommodate participant food preferences, and provide the opportunity for culturally acceptable food choices.
5. To ensure HT physical activity programming is inclusive, activity preferences should be explored to accommodate cultural practices and physical abilities.
6. Providing newcomers with information about culturally-focused community organizations, groups and services can facilitate families in linking with resources that can provide important sources of support for families during resettlement. In addition, these groups/organizations can be important resources for facilitators in providing guidance related to culturally appropriate programing or as additional resources for the HT program (e.g., guest sessions).
7. Individuals from newcomer/immigrant groups are an important resource for providing advice on ways to enhance HT. Since there are limited examples of ways to engage newcomer fathers in programs to support family lifestyles, men from different immigrant groups are likely to provide helpful guidance in ways to support the involvement of fathers.
8. Opportunities to complete HT facilitator training and lead HT programs should be made available to interested individuals who have immigrated to Canada.

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Appendices

Interview Guide

HT offers a comprehensive approach to promoting healthy eating and physical activity in families with children age 0-18 years. The program has the potential to fill gaps in community programming to promote healthy lifestyles among immigrant and refugee families as well as providing an avenue for building social connections and supporting family resettlement experiences. In this project, we are interviewing community organizations that provide services to newcomer families to understand ways in which the Healthy Together program can be adapted to meet the needs of newcomer immigrants to Canada.

1. Please tell me about your role in relation to serving newcomer immigrants, the services you (or your organization) usually provide to newcomer families, and how are these services delivered (e.g., in groups, to individual families, etc.)?
2. Tell me about the newcomer families that usually access your services (e.g., countries of origin, number/ages of children, English proficiency, health concerns, etc.).
3. Based on your experience and observations, what do you think are the most important needs for newcomer families in relation to healthy eating as they transition to living in Canada?
   Probes
   a. What are the challenges experienced by the newcomers you serve in feeding their families?
   b. What gaps are there in the programs/services available to support healthy eating in newcomer families?
   c. What are some ways that programs to support caregivers/parents in providing healthy meals for their families can be modified to work for newcomers?
      i. think about individual families or a one-on-one cooking activity
      ii. Are group cooking activities possible
   d. Where do you see opportunities for integrating and/or strengthening support for healthy eating in the services you provide newcomer families? (what might work best?)

4. Based on your observations, what do you think are the most important needs for newcomer families in relation to physical activity?
   Probes

a. What are the challenges experienced by the newcomer families you serve in engaging in physical activity? What kinds of physical activities are likely to be acceptable to the newcomer families you work with?
b. What gaps are there in programs/services available to support physical activity in newcomer families?
c. What are some ways that programs to support families in engaging in physical activity can be modified to work for newcomer families?

5. In what ways do you think that the HT resources might be used with newcomer families to promote social connections, build a sense of community, and connect families to community resources?
6. What approaches/strategies are key considerations in supporting newcomer family engagement in programs and/or activities to support healthful lifestyles? (e.g., for families who have experienced trauma, food scarcity, etc.)
7. What strategies have you used in other programs/services to ensure they are culturally appropriate to newcomers?
8. What are your ideas about how to ensure that Healthy Together is both culturally appropriate and supports newcomer families who come to your organizations?
9. Do you have any additional suggestions for the Healthy Together team you want me to pass along to them?

Sample of transcribed Interviews

Stakeholder 1

AF: Please tell me about your role in relation to serving newcomer immigrants, the services you (or your organization) usually provide to newcomer families, and how are these services delivered (e.g., in groups, to individual families, etc.)?

CS: *settlement services provider. So we have a pretty big team of settlement workers*.

AF: Tell me about the newcomer families that usually access your services (e.g., countries of origin, number/ages of children, English proficiency, health concerns, etc.)

CS: *Haitian Families Syrian families and, Arabic speaking families, French-speaking countries in Africa. Usually, language proficiency is very low, either French or English*

AF: Based on your experience and observations, what do you think are the most important needs for newcomer families in relation to healthy eating as they transition to living in Canada?

CS: *Newcomers don't necessarily find in the supermarket here, the same or similar foods that they found in their countries of origin. Also, people don't know how to cook the foods that they are being introduced to. Food insecurity is a big issue in this neighborhood "So finding, um, grocery stores provide for your family on a budget. Packing lunches for their children is something that's, also new for some of them. Because of the language proficiency issues, many people cannot read labels "we hear about a lot and knowing how to read some of the labels, you know, especially if there's a language proficiency issue to know, to, to understand the nutritional values of the foods that they're buying"*

AF: What gaps are there in the programs/services available to support healthy eating in newcomer families?

CS: *funding is always an issue. Funding for staff funding for food funding for equipment. So, yeah. Uh, I think that's the biggest, uh, biggest challenge in terms of programming.*

AF: What are some ways that programs to support caregivers/parents in providing healthy meals for their families can be modified to work for newcomers. Think about individual families or one-on-one cooking activities. Are group cooking activities possible

CS: *Definitely group cooking activities are possible. "Because there's a lot of isolation. Uh, so I think the group activity allows them to meet each other also, and to build a social network"*

AF Where do you see opportunities for integrating and/or strengthening support for healthy eating in the services you provide newcomer families? (What might work best?)

CS: *Staff needs to be trained, you know, on a, on a regular basis as we get a lot of turnover in staff. The staff just need to know what to do and how to do it*

AF: Based on your observations, what do you think are the most important needs for newcomer families in relation to physical activity?

CS: *Well I think it's just knowledge. "sharing knowledge about, you know, uh, physical activity in general and you know, how much exercise do we need, what are healthy weights healthy" how do you do physical activity, what kind of clothes do you need to be able to do these activities. Snow pants, good both, and gloves. Where to find these items at a low cost.*

AF: What are the challenges experienced by the newcomer families you serve in engaging in physical activity?

CS: So winter obviously, uh, is a challenge. Obviously, there's a cost to that. What free activities can one do?

AF: What kinds of physical activities are likely to be acceptable to the newcomer families you work with?

CS: physical activity that everybody can do. Just walking in the neighborhood, we have a bicycle program here also where we lend bicycles, uh, in the summer to families who need them.

AF: What gaps are there in programs/services available to support physical activity in newcomer families?

CS: *Just the funding, for equipment*

AF: What are some ways that programs to support families in engaging in physical activity can be modified to work for newcomer families?

CS: *Having, um, some flexibility in the program. , it's having different types of activities and different levels of activity and a mix of indoor and outdoor activities so that you can pick and choose, you know, so if a program is too rigid, I think that's what makes it challenging. asking them what they, they would like to do that always helps*

AF: In what ways do you think that the HT resources might be used with newcomer families to promote social connections, build a sense of community, and connect families to community resources?

CS: *Staff that is knowledgeable in the cities that they work so that they're able to share those resources. Offering activities, I think promote social connection. group programs is more useful to newcomers because sometimes they have the same question as someone else or they'll learn from somebody else's question and that builds community*.

AF: What approaches/strategies are key considerations in supporting newcomer family engagement in programs and/or activities to support healthful lifestyles? (e.g., for families who have experienced trauma, food scarcity, etc.)

By making HT a national program that is delivered in the app across the country

AF: What strategies have you used in other programs/services to ensure they are culturally appropriate to newcomers?

CS: *just asking the families, you know, sometimes we ask them to share a recipe with us or a physical activity that they did in their country and to share that with the group*

AF: What are your ideas about how to ensure that Healthy Together is both culturally appropriate and supports newcomer families who come to your organizations?

Just being inclusive of everybody and, uh, um, learning from each other. Having interpreters is great. Usually, we don't have the budget for that, but that's something to consider. you have a big population that speaks a certain language, then maybe you can offer the program in Arabic.

Stakeholder No 2

AF: Tell me about the newcomer families that usually access your services (e.g., countries of origin, number/ages of children, English proficiency, health concerns, etc.)

CS: *Mix of newcomers including immigrants from China, Japan, Philippines, and Iran. There is some English but it's not fluent.*

AF: Based on your experience and observations, what do you think are the most important needs for newcomer families in relation to healthy eating as they transition to living in Canada?

ST: *I think educating newcomers to have a value of what healthy eating is and an understanding of what healthy eating is. "So we used to get free pastries from Starbucks and they would be massive cookies or cakes that are really really sugary treats. And our immigrant families would take them because they were free. And then they would give them to their children because their children were hungry, but they're not good for an 18-month-old or a one-year-old". A lack of knowledge of what constitutes healthy eating is a major problem because some of them think sweet stuff is healthy*

AF: What are the challenges experienced by the newcomers you serve in feeding their families?

ST: *The costs, they can't afford it. They cannot go to the grocery store and get enough good, healthy food. Fruits and vegetables are more expensive than a bag of chips or a bag of cookies or a bag of bear paws. So they're going to do what's easiest for them*

AF: What gaps are there in the programs/services available to support healthy eating in newcomer families?

ST: *There are lots of resources for families but if you can't afford to feed your family, the resources aren't any good.*

AF: What are some ways that programs to support caregivers/parents in providing healthy meals for their families can be modified to work for newcomers.

ST: *Yeah, we have a lot of success when we had families at night time cooking supper together and eating together and so supper a big meal and to be able to provide one free supper in a week is huge*.

AF: Where do you see opportunities for integrating and/or strengthening support for healthy eating in the services you provide newcomer families? (What might work best?)

ST: *Well knowing where the resources are, knowing where the food banks are, and knowing where to get cheap food from knowing where to get coupons from locally, so that they're not taking bus to Boston bus because, in Vancouver, there's a place called quest spooning exchange. And it's great to have low-cost food, but you have to take three buses and an hour and a half just to get there. So as a single parent, you're not going to take a toddler, an infant on the bus for an hour and a half there to get two bags of food to come back and an hour and a half bus ride. So availability within the community is number one*.

AF: What are the challenges experienced by the newcomer families you serve in engaging in physical activity?

ST: Well, it's cold and wet, dark outside. So it's really hard to muster up the desire just to go outside. So having fun things to do inside

AF: What kinds of physical activities are likely to be acceptable to the newcomer families you work with?

ST: Probably things that are fun, things that are engaging, things that make them feel joy and happiness, laughing, and enjoying interaction and bonding with their child, things that are not feeling like work.

AF: Can you give some examples?

ST: You could play frog, you could play tag, you could play on, I forget the game where you have to put your hand and your feet on these circles of different colors and you're stretching all over each other. Things like that, things that are easy and things that are not challenging and things that are quick, and things that are free.

But sometimes parents only watch children play. When you get caught up in a new country, a new language, new culture, you're away from your family and your friends, you don't really feel much like playing.

AF: What gaps are there in programs/services available to support physical activity in newcomer families?

ST: The number one gap is how newcomer families hear about healthy together? "So time and time and time again, we hear families saying, Oh, I didn't know about you for a whole year. I wish I known about you earlier. So there are resources available"

AF: How do we overcome this problem?

ST: Welcoming newcomer families at the airport with pamphlets that contain essential service locations like grocery stores. "And so as new immigrant families are coming, when they go from the airport to wherever they're going, there's that big, uh, black hole of oblivion of knowledge, where they get sucked into just day to day life of, Oh, I just have to find a place to live. I need to find a doctor. I need to find school for my child and food for my child"

AF: What are some ways that programs to support families in engaging in physical activity can be modified to work for newcomer families?

ST: *It has to be something that can be done endorsed and has to be something that does not require any equipment and has to be something fun. And it has to be a priority like that, understanding that if your child does not get exercise and they don't eat healthily, they're not school ready*

AF: In what ways do you think that the HT resources might be used with newcomer families to promote social connections, build a sense of community, and connect families to community resources?

ST: Oh, well the HT together has phenomenal resources, but it's in a book. And as we both know, nobody reads books anymore. So it has to be an app period. If it's not on the phone, people are not doing it. They're not accessing it doesn't matter if there's a website, it doesn't matter. Nobody's going to websites. It has to be an app

AF: What approaches/strategies are key considerations in supporting newcomer family engagement in programs and/or activities to support healthful lifestyles? (e.g., for families who have experienced trauma, food scarcity, etc.)

ST: By making HT a national program that is delivered in the app across the country

AF: What strategies have you used in other programs/services to ensure they are culturally appropriate to newcomers?

ST: *Making sure that everybody is comfortable with whatever is being done. Doing things that transcend many cultures*

AF: What are your ideas about how to ensure that Healthy Together is both culturally appropriate and supports newcomer families who come to your organizations?

Findings ways to ensure people relate with each other very well. Find out the reasons some people are not interested or do not show up after a service.

Stakeholder No 3

AF: Please tell me about your role in relation to serving newcomer immigrants, the services you (or your organization) usually provide to newcomer families, and how are these services delivered (e.g., in groups, to individual families, etc.)?

JJ: *We typically see East African women, Arab women, Chinese women. Some women from Poland and Germany.*

AF: Based on your experience and observations, what do you think are the most important needs for newcomer families in relation to healthy eating as they transition to living in Canada?

JJ: *access to healthy food, fresh fruit, vegetables in the winter" access to foods that they're familiar with. Access to information around foods that are new to them. but the most important is access to food that, that they're familiar with so access to healthy food, fresh fruit and vegetables in the winter, um, and the facilitator, uh, and again, finding foods from their home countries. The glorification of fast food as a sign of success slash demanded by children. They often go for cheaper snacks and cheaper fast foods.*

AF: You did mention access to, uh, fresh vegetables in the winter. Why winter in particular?

JJ: *So fresh fruit and vegetables in the winter are more expensive, right. So I think it's more of it's shopping based on a budget and looking for, uh, fresh fruits and vegetables that are not as costly*

AF: What gaps are there in the programs/services available to support healthy eating in newcomer families?

JJ: *So no status in Canada is one. I have been part of partnerships with programs where they have to have papers to show their status in order to participate. Language barriers is the big one. cultural barriers around food, vegetarian, no beef products. a lot of the healthy eating programs are also based on Canadian foods. Maybe programs can incorporate foods from other cultures as examples*.

AF: What are some ways that programs to support caregivers/parents in providing healthy meals for their families can be modified to work for newcomers. Think about individual families or one-on-one cooking activities. Are group cooking activities possible

JJ: *incorporate ethnic food in cooking activities last top-down approaches, let participants partake in deciding what the activities are. Let people bring their own recipe because they're more engaged when they're bringing the recipes to the group, they take on leadership roles and feel more connected to their community.*

Group activities are possible, but children are an issue. Many will not consider food cooked by kids, real food. But you can make cooking sessions for both children and adults. many love YouTube cooking videos in their own language.

AF Where do you see opportunities for integrating and/or strengthening support for healthy eating in the services you provide newcomer families? (What might work best?)

JJ: *more conversations about food, uh, online presence with ideas. Provide like that YouTube cooking videos. There's a lot of potentials there for our communities to use that platform.*

AF: Based on your observations, what do you think are the most important needs for newcomer families in relation to physical activity?

JJ: *So winter is a big, big one. There are misconceptions about going outside in the cold. it's about access to warm clothing for adults and children. For newcomers that mostly live in apartments, they don't necessarily have a backyard outside to engage in physical activities. Taboos about public physical activity for women and girls – walking may be allowed but not running. Physical activity is not something associated with fun and mainly it's for children, not something they have grown up with as important. So being gender-sensitive in service provision. Like gyms with women, only sections are expensive. Women are very self-conscious around white people, dominated groups.*

Women only physical activities and community centers are often visible for outsiders still. So when we do ours, we cover the windows so that they can't see, they can't see inside.

"We've incorporated their own music and dance traditions to help them become active". In the end, it comes back to the participants teaching the facilitators and teaching other participants as well.

Communicating that it's really healthy, go outside in the winter and get fresh air and what can you do in the winter. Where can you get access to winter clothes and winter boots?

it comes down to a lot of conversations and listening about experiences and then sharing, um, the benefits of being outside

AF: What approaches/strategies are key considerations in supporting newcomer family engagement in programs and/or activities to support healthful lifestyles? (e.g., for families who have experienced trauma, food scarcity, etc.)

JJ: *So safe spaces is a big one. Peer-based activities because the peer has experiences that are related to the group they're facilitating. Be flexible in activities. Engaging newcomers by asking for their opinions, understanding what they're wanting to focus on. Having a facilitator that, um, understands the need for safety like welcoming people, smiling.it can be very, very basic, behaviors that really can start to create that safe space*

AF: What strategies have you used in other programs/services to ensure they are culturally appropriate to newcomers?

JJ: *if we're providing a snack, um, we ensure that there are no meat products. "we keep the snacks where there's fruit and vegetables, um, so that we're not running into providing a snack where somebody wouldn't eat it" we don't make assumptions. listening and observing and, and participating alongside newcomers. What we do is we follow the person's lead.*

AF: What are your ideas about how to ensure that Healthy Together is both culturally appropriate and supports newcomer families who come to your organizations?

Being mindful of the physical activity. Have room for the participants to suggest physical activities. We are really as an organization, reflecting on inclusivity and anti-racism, and anti-oppression, and thinking about how we design programs and deliver programs. Newcomers being part of the planning process for healthy together. Moving forward and looking at a program that involves/focuses on newcomers, our approach now would be having them help us to plan it.

AF: Do you have any additional suggestions for the Healthy Together team you want me to pass along to them?

Step 1: JJ: *I think it's a solid program. But it comes down to funding. Is there a way to deliver it virtually? It would be nice to have programs that can go back and forth in person and virtual, so that there isn't a disruption in, uh, resources and programs for, for children and families*.