MAKING FOOD SAFE FOR ALL: A NEEDS ASSESSMENT OF NEW IMMIGRANT MOTHERS AND THEIR FAMILIES

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ACKNOWLEDGEMENTS

First, we would like to thank the incredible newcomer women that shared their experiences, thoughts, and opinions about food in Canada. They demonstrated great motivation and interest in living safe and healthy lives, and are a fountain of wisdom for others grappling with the challenges of migration.

We would also like to thank our community stakeholders who provided valuable input during the formative stages of this project and the community centres that collaborated with the research team by recruiting newcomer women and hosting focus groups. Their generosity and commitment to the well-being of their newcomer clients is an inspiration to us all. They shared their time, space, and feedback, and made this project possible.

Finally, we would like to thank the FRP staff who provided logistical support and additional help when it was needed, and the FRP research team who devoted many unpaid hours to ensuring the success of this project.

This study was made possible by the Office of Consumer Affairs and the in-kind donations from the Canadian Association of Family Resource Programs and their members.

PROJECT FUNDING

The Canadian Association of Family Resource Programs has received funding from Innovation, Science and Economic Development Canada's Contributions Program for Non-profit Consumer and Voluntary Organizations. The views expressed in this report are not necessarily those of Innovation, Science and Economic Development Canada or of the Government of Canada.

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EXECUTIVE SUMMARY

PROJECT GOALS: Women are often charged with food preparation duties for their families, which, following migration, often include dietary transitions and adjusting to the Canadian food context. These transitions are challenging for some families as they must navigate different market systems, unfamiliar foods, different food technologies and cooking practices, and adjust to different ways of acquiring preferred foods. This study sought to assess the information needs of immigrant women across three areas: food safety, nutrition, and food labels.

RESEARCH QUESTIONS: This needs assessment explored 1) whether food safety was a priority to new immigrant mothers; 2) what immigrant mothers perceived their needs to be regarding food safety and nutrition; 3) what sources of information newcomers use to navigate a new food environment; and 4) community service providers' perceptions of the needs of new immigrant mothers regarding information about food safety, food labelling, and dietary transitions to the Canadian context.

METHODS AND ANALYSIS: We conducted 11 focus groups with 83 newcomer women across five major urban centres in Canada. Three of these focus groups (n = 22) were conducted in French. We also conducted three two-person focus groups and 4 one-on-one semi-structured interviews representing 11 community service providers by phone. Three service provider participants participated in French. All sessions were audio-recorded and transcribed verbatim. An inductive thematic analysis was conducted to derive key themes.

KEY FINDINGS: Newcomer families face a variety of challenges during the settlement process. Food is an important adjustment area that merits further investigation into the food safety, nutrition, and label information needs of newcomer families. Below are the key findings from this study:

FOOD SAFETY AND NUTRITION ARE NOT ALWAYS A PRIORITY.

- Despite the centrality of food for survival, health, and well-being, food safety and nutrition are seldom a priority for families when they are overburdened with other settlement demands like finding housing and employment.

- However, when these other basic needs are met, newcomer mothers are motivated to learn more about food safety and nutrition to better nourish and care for their families.

ORIGIN COUNTRY FOOD CONTEXTS DIFFER IN IMPORTANT WAYS FROM THE CANADIAN FOOD CONTEXT.

- Many newcomers come from food contexts where fresh, organic, local foods are readily available at a low cost or free. Many are accustomed to obtaining food from gardens, farmers markets, and neighbours, where they can foster relationships with food growers.
- Many find it difficult to adjust to a Canadian food system where food is more expensive, often frozen, canned or prepackaged, and where grocery stores, as the main source of food, are experienced as alienating.
- The increased availability and accessibility of processed, convenience foods and decreased accessibility of high quality foods places many newcomer families at risk of experiencing food insecurity, dietary acculturation, and declines in the Healthy Immigrant Effect
- Different cultural and religious beliefs pertaining to food must be acknowledged and respected when helping newcomers make healthy food transitions
- Muslim women face specific challenges when identifying halal foods that require carefully reading ingredient lists, looking for kosher symbols, and researching products, when previously, all foods available to them were guaranteed halal. The added time and energy needed to ensure foods are halal makes food less accessible. They must also often pay more for halal foods which places a greater strain on budgetary decisions.

ACCESSIBLE FOOD SAFETY EDUCATION AND LABEL LITERACY IS NECESSARY TO MAKE INFORMED CHOICES.

- Food processing and safety practices differ across geographical regions suggesting there is a need to provide widely available and accessible food safety education
- Information regarding the health risks of different food processing procedures needs to be included in food safety education so that consumers can make well-informed choices
- Important food safety and nutrition information is available on food labels but is often inaccessible to the public and especially to newcomers who face language barriers

- Making meaningful nutrition and food processing comparisons is especially important when newcomer mothers are faced with social pressures that encourage dietary acculturation and the consumption of processed, convenience foods

THE MOST EFFECTIVE WAY TO DELIVER FOOD INFORMATION IS BY WORD OF MOUTH AND UPON ARRIVAL.

- Friends, family and social networks are the most common source of information for newcomers. Delivering information through these networks is best for widespread dissemination. When this is not possible, in-person information sharing is recommended.
- Most newcomer women eventually adapt to Canadian culture. However, many believe adjusting to Canadian life could be vastly improved if they were paired with a knowledgeable peer upon arrival who could point them toward a variety of food and social services.

PROJECT BACKGROUND

This project was funded by the Office of Consumer Affairs (OCA) and the Canadian Association of Family Resource Programs (FRP). FRP is a national network of community-based organizations that work to improve the health and well-being of families and communities. These goals are accomplished by offering member organizations logistical support, training, capacity building, access to a national network, as well as opportunities to participate in advocacy, policy-making, research, and efforts to promote family programs to the public (for more information visit www.frp.ca). FRP member organizations include Parent Link Centres, Ontario Early Years Centres (OEYC), Community Action Programs for Children (CAPC), as well as other community centres that provide a variety of family-oriented services. Importantly, a large proportion of the clientele served by FRP member organizations are recent immigrants. This project represents a joint venture between FRP and interested researchers from the Children's Hospital of Eastern Ontario, Genome Canada, St. Francis Xavier University, the University of Ottawa, and Carleton University. Together we hoped to better understand the immigrant experience as it pertains to food.

First generation immigrants now comprise over 20% of Canada's population with the number of incoming immigrants remaining steady at an average of 235,000 newcomers per year, over the past two decades (Statistics Canada, 2016). While immigrating to Canada affords newcomers many opportunities for a better life, recent immigrant families face many challenges when they first arrive, including significant adjustments to their food practices (Vallianatos & Raine, 2008). This project focused on newcomer women's experiences adjusting to a Canadian food context where perceptions of food safety and nutrition are bound to differ. Our goal was to document the food safety, nutrition, and food label information needs from the perspective of both newcomer women and the service providers who deliver family and food-oriented programming. Based on the documented needs, we aim to develop educational resources (e.g., websites, phone applications, e-learning modules) geared toward facilitating newcomer women's transitions to Canadian life.

FOOD SAFETY

Food safety can be defined as food that is "free from all hazards, whether chronic or acute, that may make food injurious to the health of the consumer" (Rao, Sudershan, Rao, Rao, & Polasa, 2007, p.444). While little research has been done on immigrant women's food safety practices, some studies have suggested that immigrant, and other marginalized populations (e.g., racialized, low-income communities), are at a higher risk of contracting foodborne illnesses (Henley, Stein & Quinlan, 2012; Quinlan, 2013; Varga et al., 2013). For example, research in the United States has suggested that the incidence of food borne illnesses among Latin Americans is higher than the general population and is likely due to different cultural practices and food safety beliefs (Stenger, Ritter-Gooder, Perry, & Albrecht, 2014). Similarly, anecdotal evidence from stakeholders suggested there exist important food safety knowledge gaps among newcomers in Canada.

Income has also been shown to affect food safety practices. Research conducted in Toronto, a city with the largest immigrant population in Canada (Statistics Canada, 2011), indicated that areas with low and high income families had higher rates of Salmonella poisoning and areas with a high proportion of racialized families had lower rates (Varga et al., 2013). This suggests the risk of contracting a food-borne illness is complex and multi-causal. Food safety knowledge and practices are varied among newcomers and given the changes in cooking practices many immigrants experience, it is important to understand what food safety information is required by newcomer mothers to make a healthy transition.

NUTRITION

We conceptualized food safety in broad terms, emphasizing the relationship between health and food. In addition to exploring conventional food safety topics (e.g., cooking temperatures, thawing, storage), we were also interested in understanding the nutrition information needs of newcomer mothers.

HEALTHY IMMIGRANT EFFECT

The most concerning health and safety adaptation that has been documented in the literature relates to the Healthy Immigrant Effect (HIE) or the foreign-borne health advantage, where

immigrants are typically healthier than the native-born population, at least initially upon arrival in their new country (Hyman, Guruge, Makarchuk, Cameron, & Micevski, 2002; Sanou et al., 2014; Vang, Sigouin, Flenon, & Gagnon, 2015). Research on the HIE has attributed this phenomenon to a variety of factors. For one, immigrants tend to be younger than the general population and are generally in good health when they immigrate. Most are also well-educated and invested in their family's well-being. That said, the HIE tends to decline, overtime, post-migration (Hyman et al., 2002; Sanou et al., 2014; Vang et al., 2015). While many benefit from better health upon arrival, this advantage quickly deteriorates placing immigrants at a higher risk of developing chronic diseases the longer they are in Canada (Hyman et al., 2002). The reasons for this decline are attributed to a complex interplay of decreased access to health care, the stresses of immigrating, shifting toward a sedentary lifestyle, and of course, changes in diet (Hyman et al., 2002; Rodriguez, Dean, Kirkpatrick, Berbary, & Scott, 2016; Sanou et al., 2014).

DIETARY ACCULTURATION

Dietary acculturation refers to the process of adopting the foods of the host culture. In Canada, dietary acculturation is often associated with an increase in processed foods, convenience foods, and fast foods (Dean & Wilson, 2010; Hyman et al., 2002; Rodriguez, 2016) although not exclusively (El Hassan & Hekmat, 2012). To some extent, dietary acculturation is unavoidable and necessary. However, it becomes a health concern when incorporating Western foods into traditional diets means substantially increasing the amount of processed, convenience, and fast foods.

Newcomer mothers are often the primary food preparers for their household and are charged with incorporating Canadian foods into their dietary patterns as well as maintaining meal traditions, upholding religious food stipulations, and passing on cultural values through food practices to their children (Anderson et al., 2015; El Hassan & Hekmat, 2012; Greder et al., 2012; Vallianatos & Raine, 2008). However, children are often exposed to food outside the home (e.g., at school, friends' homes) and, therefore, complicate matters for mothers who must negotiate their children's preferences for Western food with feeding them healthy meals and passing down cultural and religious values (Anderson et al., 2015; El Hassan & Hekmat, 2012; Greder et al., 2012; Vallianatos & Raine, 2008).

When dietary acculturation means incorporating more processed, convenience, and fast foods, it contributes to the decline of the HIE by increasing the risk of negative health outcomes like cardiovascular disease, diabetes, obesity, and other chronic diseases (Greder, de Slowing, & Doudna, 2012; Hyman et al., 2002; Rosenmöller, Gasevic, Seidell, & Lear, 2011; Sanou et al., 2014; Varghese & Moore-Orr, 2002). The shift toward more processed and convenience foods is often attributed to the lower relative cost of processed foods, as compared to fresh, high quality and ethnic foods (Hyman et al., 2002; Popovic-Lipovac & Strasser, 2015), as well as the social pressures to integrate through food. Importantly, some have pointed to the role of food insecurity on immigrant families' dietary patterns (Rodriguez et al., 2016). Food security refers to the degree to which people can access safe, healthy and nutritious foods based on their needs and preferences (Williams et al., 2012) and research suggests recent immigrants are 2 to 5 times more likely to be food insecure as their Canadian counterparts (Rodriguez et al., 2016; Vahabi, Damba, Rocha, & Montoya, 2011).

However, this relationship is not as straightforward as it may seem. One Canadian study that explored the HIE from the perspective of immigrants, found that participants reported having increased access to *both* healthier foods (e.g., a variety produce year-round) and high calorie convenience foods, although convenience foods were still reportedly more affordable (Dean & Wilson, 2010). Some participants reported improvements in their health, while others suggested it stayed the same. Those who reported a decline, were those who struggled more to find employment (Dean & Wilson, 2010).

Another study examined how different cultural groups made sense of healthy eating by assessing what discourses influenced their food decision-making behaviours (Ristovski-Slijepcevic, Chapman, & Beagan, 2008). Those who drew upon cultural/traditional discourses believed that traditional and cultural food items and practices were inherently healthy, simpler, and more wholesome. The modern Western diet, on the other hand, was viewed as making convenience food too easy to access, which many believed contributed to overeating and unhealthy outcomes because these foods were perceived as not filling and lacking in nutrients (Ristovski-Slijepcevic et al., 2008). Similarly, a study conducted in Newfoundland found that their sample of immigrant participants made a concerted effort to keep their traditional meals even after 15 years of living in Canada (Varghese & Moore-Orr, 2002).

This suggests that many immigrants possess an awareness of the risks associated with adopting Western dietary patterns and may instead face barriers that prevent them from keeping their traditional diets or making healthy adaptations. This emphasizes the importance of determining what information is then needed to promote healthy diets and overcome barriers to healthy eating among newcomers.

FOOD LABELS

Food labels are an important source of both food safety and nutritional information reflecting national food policies and regulations. Typically, food labels convey information regarding best before and expiry dates, storage and cooking instructions, ingredient lists, and nutritional value tables to help the public make informed food decisions (Hall & Osses, 2013). However, several studies suggest that consumers do not always read labels or use the information available to them (Dejardins, 2013) because they are largely inaccessible (Alton Mackey & Metz, 2009; Hall & Ossess, 2013). For example, one study found that hospital in-patients did read labels but experienced difficulties interpreting label information when faced with insufficient literacy and numeracy skills (Rothman et al., 2006). A Canadian study found that those that do read labels reported that only 7% of ingredient lists are easy to read and 67% of lists were very difficult to read. They also found that expiry dates are the most sought after piece of information but many do not adhere to them (Alton Mackey & Metz, 2009). Others reported confusion regarding the difference between best before and expiry dates (Hall & Osses, 2013).

These problems are compounded for newcomers who may be unfamiliar with certain foods, may not recognize packaging, must contend with language barriers, and may have different conceptions of how to determine whether food is safe and healthy to eat. Currently, there is little research documenting newcomers' experiences with food labels, so we deemed it necessary to consider immigrant women's food label information needs in addition to food safety and nutrition needs.

RESEARCH QUESTIONS

Taken together, the results from this review are critical for considering the multitude of challenges immigrants face in adapting to a Canadian food context and ensuring their meals are

safe and nutritious. Given the dearth of research that directly assesses immigrant women's experiences with food safety, nutrition, and food labels, we endeavoured to fill this knowledge gap by conducting a needs assessment to explore:

1) whether food safety was a priority to new immigrant mothers;
2) what immigrant mothers perceived their need to be regarding food safety and nutrition;
3) what sources of information newcomers use to navigate a new food environment;
4) and community service providers' perceptions of the needs of new immigrant mothers regarding information about food safety, food labelling, and dietary transitions to the Canadian context.

To gather this information, we conducted focus groups with newcomer women and interviews with community service providers.

Photo Source: Pixabay.

METHODS

Previous attempts at documenting food safety and nutrition-related behaviours have been limited by social desirability biases in self-report surveys (Levy, Choinière, & Fein, 2008). Additionally, proclaimed knowledge and reported behaviours do not always correspond to practiced behaviours (Wilcock, Pun, Khanona, & Aung, 2003). We, therefore, opted to use exploratory focus group discussions with immigrant women that allowed us to probe for different food behaviours and experiences. Focus groups are also ideal when bringing people together from various world regions as they are well suited to capturing differences in knowledge, attitudes, and opinions (Krueger & Casey, 2009). In doing so, we hoped to gain valuable insights regarding what information participants believed would make their transitions easier. Finally, focus groups with newcomer mothers were preferable as they were less dependent on written language proficiencies and could be offered in multiple languages to suit the needs of the participants.

Focus groups were the preferred method for recording the perspective of service providers as they contextualize issues, allow for group processes to emerge, which in turn, facilitate collective sense-making (Wilkinson, 1999). However, due to scheduling conflicts, semi-structured interviews were used when multiple participants could not attend the same session. While interviews are not amenable to the same creative dynamics, they do allow for detailed participant accounts and in-depth discussions (Esterberg, 2002).

PROCEDURE AND INTERVIEW GUIDE PROTOCOL

FOCUS GROUPS WITH NEWCOMER WOMEN

In total, ten focus groups and one pilot session were conducted with immigrant women. Eight of these sessions were conducted in English and three were conducted in French. To be eligible to participate in the focus groups, women had to have arrived in Canada within the last five years, be the primary food preparer in their home, and have at least one child under 18 years of age in their care. Women were recruited through community centres located in Vancouver, Saskatoon, Ottawa, Montreal, Quebec City and Halifax. Community centres that participated in this project were approached by staff at FRP regarding their collaboration. As part of their involvement,

they were asked to promote our study to eligible participants using materials the research team developed. They were also asked to host the focus groups and worked with the FRP research team to provide snacks and childcare to women participating in the focus group sessions.

The average number of women per focus group was 7.5 and the length of each discussion ranged from 42 to 89 minutes with the average length being 68.5 minutes. However, all sessions lasted about 2 hours in total when accounting for time devoted to the consent process and time allotted to completing a demographics questionnaire. After obtaining consent and collecting demographic information, participants engaged in an open-ended discussion where they were asked about the changes in the types of food they eat ("Tell me about the foods you eat?"), their shopping and cooking practices ("Tell me about how you shop for food here in Canada?"), food safety behaviours ("Tell me about how you cook your meals?"), desired food information ("What do you wish you had known about food here in Canada?"), and sources of information ("where do you go now for information about food?"). Following the session, all participants were debriefed, thanked for their time and contributions, and provided with transportation fare and a $20 grocery store gift card.

Social desirability and the propensity for participants to provide what are believed to be the socially acceptable responses remain a potential limitation of focus group discussions. However, the newcomer women and service providers in our study were very forthcoming with their stories and shared freely. Non-verbal behaviours were noted during the newcomer focus group sessions for silent indications of hesitance or dissent, but nothing of concern was noted. Facilitators also completed a post-interview form to further note any immediate observations and reflections regarding the tone and mood of the session.

INTERVIEWS AND FOCUS GROUPS WITH COMMUNITY SERVICE PROVIDERS

To optimize participation, service provider focus groups and interviews were conducted by phone. To participate in this study, service providers had to have worked with immigrant populations and be over the age of 18. Prospective participants were initially contacted by email through the FRP membership database. We used a snowball sampling method where FRP board members and contacts from community centres that hosted newcomer women's focus groups were invited to participate and to circulate the recruitment call among their colleagues and

contacts. Those who responded to the email were provided with an electronic consent form and asked to attend a teleconference call at a time suitable for them.

In total, there were four individual interviews and three focus groups. Two focus group sessions had two service providers in attendance. One focus group was conducted in person with three participants. The length of the sessions ranged from 50.5 to 82 minutes with the average length being 64 minutes. The interview guide questions were the same for interviews and focus groups and centered on immigrant women's information needs regarding food safety ("What are the most important food safety issues facing immigrant women?"), nutrition ("What kinds of questions have newcomer women asked about nutrition and healthy eating?"), and food labels ("What food label information are women looking for?"), as well as service provider information needs ("Where do you go for information?"), and ways to improve current programming ("How can we best support immigrant women as they adapt to a Canadian food context?"). Following the interview or focus group, participants were thanked, sent an electronic debrief form, and mailed a $20 grocery store gift card. Post-interview forms were also completed by facilitators for the service provider sessions so that initial thoughts and impressions could be documented.

All sessions were audio-recorded and transcribed verbatim. Sessions that were conducted in French were later translated into English in preparation for data analysis.

PARTICIPANTS

NEWCOMER WOMEN

In total, 83 newcomer women participated in focus groups for this study. They ranged in age from 19 to 63 years, with the average being 36 years of age. They reported coming from a variety of origin countries with African origin countries being the most represented (45.8%), followed by Asian (24.1%), Middle Eastern (16.9%), Central and South American (10%), and one woman who reported coming from a European origin country[1]. Spoken languages were also

[1] Countries of origin were categorized according to the groupings made by Citizenship and Immigration Canada (2015).

considerably diverse. Arabic was the most commonly spoken language (48.2%), followed by English (32.5%) and French (24.1%). In total, 25 different languages were represented with each participant speaking an average of 1.6 languages. The women in this study were highly educated with more than half finishing college or university. Table 1 showcases additional demographic data including time in Canada, income level, and number of children.

TABLE 1. DEMOGRAPHIC INFORMATION FOR IMMIGRANT WOMEN

N = 83	
Age	Mean = 36.3 (*n* = 83)
Length of time in Canada	Average overall = 34.4 months (2.9 years)
	55.4% (*n* =46) were recently arrived (0-3 years)
	44.6% (*n* =37) were later arrived (3-5 years)
Region of Origin	45.8% Africa (*n* = 38)
	24.1% Asia (*n* = 20)
	16.9% Middle East (*n* = 14)
	12% Central and South American (*n* = 10)
	1.2% Europe (*n* = 1)
Spoken Languages	48.2% (*n* = 40) Arabic
	32.5% (*n* = 27) English
	24.1% (*n* = 20) French
	8.4% (*n* = 7) Cantonese/Mandarin
	46% (*n* = 38) Other languages
Focus Group Language	26.5% (*n* = 22) participated in French
	73.5% (*n* = 61) participated in English
Religion	43.4% (*n* = 36) Islamic
	32.5% (*n* = 27) Christian
	7.2% (*n* = 6) None

	3.6% (*n* = 3) Hindu
	2.4% (*n* = 2) Agnostic
Children	Avg # of children: 2.5 (*n* = 82)
	Avg age of oldest child: 9.2 years (*n* = 81)
	Avg age of all children: 8.15 (*n* = 82)
	Age range of all children: 0.25 – 35 years
Marital Status:	89.2% (*n* = 74) reported being currently married
	10.8% (*n* = 9) Other
Income Ranges:	49.4% (*n* = 41) reported income: < $20,000
	36.1% (*n* = 30) reported income: $20,000-$50,000
	3.6% (*n* = 3) reported income: $50,000-$100,000
	0 participants reported income above $100,000
Level of Education:	16.9% (*n* = 14) finished postgrad
	9.6% (*n* = 8) some postgrad
	34.9% (*n* = 29) finished college/undergrad
	16.9% (*n* = 14) some college/undergrad
	9.6% (*n* = 8) finished high school
	7.2% (*n* = 6) some high school
	1% (*n* = 1) finished primary
	1% (*n* = 1) some primary
Health Ratings on a 1-10 self-report scale:	Past health = 7.8
	Current health = 8.8

COMMUNITY SERVICE PROVIDERS.

Eleven service providers participated in this study with four completing semi-structured interviews and seven participating in focus groups. Ages ranged from 28 to 56 years with the average age being 46.2 years old. Service providers also held a variety of different occupational roles including dieticians, community workers, and food, family and newcomer program directors. Everyone reported working with newcomers and working on food issues although for different lengths of time and at different points in their careers. On average, service providers spent 13 years working with either immigrant populations or on food issues.

ANALYSIS

The data were analyzed using NVivo11 qualitative data analysis software (QSR International). The data were open coded following Braun and Clarke's (2006) recommendations for an inductive and semantic approach to an essentialist thematic analysis. An essentialist approach seeks to document and describe participants' stated experiences without inferring or interpreting underlying meanings. An inductive approach begins with participants' words and coding for semantic content means data were analyzed based on explicit meanings. After the initial coding phase, the constant comparative method (Glaser, 1965), where codes are compared to other codes, categories and themes, was used to draw connections between ideas, thoughts, and the experiences described by participants. Each transcript was, thus, coded for relevant and unforeseen topics. Once each transcript was coded, the code list was revised by comparing the quotes associated with each code. Revised codes were then compared to each other to develop representative categories. Duplicate coding of two focus group transcripts was conducted by two members of the research team (GC and CC) to compare insights, generate initial codes, and discuss emerging themes.

Codes and categories were compared across interview transcripts to look for similarities and differences across focus groups and between the responses from immigrant women and those of service providers. This process resulted in further refining the code and category list and aided in developing key themes. For example, in comparing the codes and categories arising out of the newcomer focus groups and those arising from the service provider interviews, it was evident that service providers were more concerned with nutrition issues and barriers while the

newcomer participants were more concerned with accessing preferred foods. These differences were explored and considered to arrive at an integrated analysis that considered both perspectives.

At this stage, a more deductive analysis ensued where emerging categories were compared to topics and themes found in the research literature to identify ways that the results from this project converge and diverge from the existing literature. Additionally, a list of themes and categories along with associated quotes was circulated among the research team for review and feedback. Thus, the emerging interpretations were triangulated with the existing research literature and the expertise of the research team to arrive at the final set of themes. A detailed audit trail was maintained of all coding and analytic decisions to enhance the trustworthiness of our findings.

Data analysis was completed once revised categories were organized into key themes and a critical theme was identified. In this case, the critical theme was "changes in access to food."

RESULTS

When asked about the differences between food practices in their home countries and food practices here in Canada, the most salient change for immigrant mothers was how they accessed food and the types of food they accessed most frequently. Access to food, therefore, arose as a critical theme that dominated most discussions with both immigrant women and service providers. At the crux of the issue is that newcomer families are faced with multiple changes, challenges, and demands on their resources that impact their relationship to food and dictate the choices they can make with respect to healthy, safe, and nutritious food practices. How newcomers access food, therefore, provides the context within which we can understand food priorities, food safety, nutrition, and food label practices as well as food related information needs.

CHANGES IN HOW FOOD IS ACCESSED

FROM GARDENS AND FARMER'S MARKETS TO GROCERY STORES

The most common difference cited by the newcomer women was the change in the level of freshness of food. Many mothers noted that food in Canada was often canned, frozen, old, wilted, tasteless, or otherwise deemed less fresh than what they were used to back home. Many lamented the change stating an explicit preference for fresh, local, and organic foods that were ideally obtained directly from a farm, garden, or farmer's market:

> *Wx: Back home it's all natural, the vegetables, they're fresh, and we buy everything fresh, every day. I mean we're not storing vegetables like for one week, in my country, Iraq. The moms go every day for shopping at like 8 in the morning, or before dark. Even the fish is fresh, the meat is fresh. Everything is fresh. But here you have the same things, but just the taste is different. And it is not like, fresh. I mean, you store the apple for one or two months – there's no, we don't have the same. It comes from the farm directly; the farmer we know is not using much chemical there.*
> *(Immigrant Woman, February 29, 2016)*

These preferences can be attributed to the lifestyles many immigrant women were used to before immigrating to Canada. For example, most of the women described coming from places where buying directly from local farmers was possible and where personal gardens were common and heavily relied upon for subsistence:

> *W: Fruit, yeah. But, in Sri Lanka we use fresh vegetable, fruits, everything is fresh. But we have some of them frozen too. But usually we use fresh. Everybody, a lot of the - about 90%, everybody has a garden. They cultivate vegetables, they have. And they're 100% organic. They're 100% organic [laughter]. Vegetables and every green, fruits, everything. Yeah.*
> *(Immigrant Woman, March 15, 2016)*

Once in Canada, however, most found themselves confined to shopping at grocery stores where they were distanced from the means of production and where many of the products sold were packaged, frozen, canned, or imported from different countries.

FROM FREE OR LOW COST FOOD TO PROHIBITIVE PRICES

The second most important change for women was how much of their financial resources were spent on food. Previously, many women grew their own food for little to no cost, traded and exchanged garden produce with neighbours, bargained and bartered for farm fresh foods, or were generally able to buy fresh meat and produce for low prices. However, upon arriving in Canada, many were restricted to shopping at grocery stores where food prices were high and the cost of good quality foods (i.e., fresh, local, organic) was even higher:

> *W4: It is impossible to get organic fruit here, because it is too expensive. Sometime maybe you can buy organic food, for example, sometimes I bought that for my daughter maybe some fruit or vegetable, but not for everybody, because. It's too expensive, yeah.*
> *W5: yeah, yeah, me too.*
> *Wx: it's too expensive.*
> *(Immigrant Woman, June 20th, 2016)*

This posed a serious barrier to buying high quality foods for many mothers as most families that immigrate to Canada are on limited incomes.

They also noted that the cost of ethno-cultural foods was even more prohibitive because those items are often imported and sold exclusively in ethno-cultural stores:

> *W10: Actually, there is another difficulty concerning the food we love. It is more expensive here than the usual food that is available for all of you. For example, the spices and stuff for me we get them from the Arabic stores but they're more expensive than the usual spices we can get from Food Basics. And um, also for the halal food.*
> *(Immigrant Woman, February 24th, 2016)*

The higher cost of high quality foods and ethno-cultural foods relative to "Western" processed foods meant that many moms had little choice but to adapt their diets to what they could afford and what they could reasonably access. This often meant decreasing their intake of more expensive traditional foods ("I can't eat them often"), looking for sales and discounts to guide grocery shopping choices ("we wait for the sales"), increasing their intake of cheaper, convenience foods ("we make do with what we can easily buy"), and in the case of Muslim women, this meant devoting more financial resources to ensure they could buy halal foods.

TRANSPORTATION, TIME, AND SOCIAL RESOURCES

The women we spoke with also noted that they travelled further distances to shop for food here in Canada than they did back home. For many, the time and money associated with grocery store trips meant that shopping was done less frequently. Less frequent shopping, in turn, impacted what foods were bought as food storage and shelf life became a factor for consideration. For Muslim mothers, the time spent grocery shopping was a considerable challenge as they were tasked with carefully reading ingredient lists to ensure purchased products were halal.

> *WX: You know, we can't buy everything from stores, we have to check the ingredients for gelatin, we can't – because it's wrong for us, so we have to check. Maybe make some research on it, yeah, but it takes a long time. And there is limitation because we can't buy everything, some kind of cookies, we can't buy it, yogurt, yeah.*
> *(Immigrant Woman, March 2nd, 2016)*

More generally, many mothers described having less time to devote to cooking as more of their time and energy was spent on other settlement processes (e.g., finding employment, going to school). For some this meant opting for cooking short cuts such as using canned or premade foods. Many mothers also described a shift in the experience of grocery shopping and cooking that was previously a social and communal activity that involved the help of other family members (e.g., caring for children while mothers shopped, sharing the work of preparing meals) to one where shopping and cooking became a chore for which they were solely responsible.

CHANGES IN WHAT FOOD IS ACCESSED

When access to good food is limited, newcomers have little choice but to incorporate low quality, unsafe, processed, or convenience foods into their diet, which often contribute to food insecurity, dietary acculturation, and the decline of the HIE. Food safety and nutrition needs are frequently in conflict with food security and financial constraints. Both immigrant women and service providers noted the challenges and difficulties in trying to eat well on a tight budget. Many of the women in our study talked about not being able to afford the food they valued most (e.g., fresh, local, organic, specific cultural foods, etc.) and lamented this change in access given that they readily had good quality food in their home countries.

UNDERSTANDING FOOD SAFETY PRIORITIES AMONG NEWCOMERS

> *If you're talking about the immigrants, like, food safe is not really the priority for them. So, they don't have the mind about this act, at all. Yeah.*
> *(Service Provider, June 20th, 2016)*

One of the goals of this project was to document experiences and challenges with food safety in Canada given that anecdotal evidence from community collaborators suggested there were important knowledge gaps in food safety practices among newcomers. During our conversations with immigrant women, it became clear that many were quite knowledgeable regarding food safety practices. Though, for most, food safety was not a top priority. Instead, many women spoke of the difficulties they faced in finding housing, employment, clothing, furniture, navigating new neighbourhoods, learning a new language, dealing with loss, finding support networks, and going to school while caring for their families. For example, one mother

described how managing multiple demands, and not a lack of knowledge, was a significant barrier to practicing good food safety behaviours:

> *W3: I think the problem is not that we don't know. The problem is this - can we do this all the time? Not all the time. Besides looking after babies, work, it's difficult to maintain all these things you know. For myself, I have, I think, information enough about the food safety, but it's really hard for me to keep - to apply all the information. Because sometimes I don't have time, and sometimes I don't have patience. You know, you have a baby, he's crying, and you have all …*
> *(Immigrant Woman, September 28th, 2016)*

For these reasons, food issues were not always prioritized, and even when access to preferred foods was a concern, other aspects of food, like food safety and label reading were not often considered, apart from Muslim women who spent considerable time reading ingredient lists. However, while food safety was not an explicit priority, those who attended information sessions and workshops reportedly valued what was learned and expressed an interest in knowing more:

> *WX: Like the point you're making, food safe, that's the point. Sometimes the um, like salad we don't know how to keep covered, to keep food safe, and how to keep nutritional values, so like this information will help the new mothers… Because I trained in one program, and there I get the information, don't overcook your food, and you can use only like two times, if you keep, put in the fridge, and after that, only two times like cook. Boil it, and eat it, otherwise don't put like long in the fridge. So, like that type of information.*
> *(Immigrant Woman, March 14th, 2016)*

In fact, the mothers we spoke with listed a variety of food safety topics that were of great interest to them. Thus, it is important to continue offering free and accessible food safety programming. However, the success of the programming will likely depend on how well other challenges and barriers are addressed. Providing food safety education in the absence of addressing other newcomer needs may result in moderate to few improvements given that competing demands may interfere with food safety and good nutrition practices.

NEWCOMER PERCEPTIONS OF FOOD SAFETY AND NUTRITION NEEDS

FOOD SAFETY

The women in this study demonstrated varied levels of knowledge regarding conventional food safety procedures. For example, many women demonstrated knowledge regarding safe thawing practices, storage times for leftovers, washing practices for produce, and general sanitation. Topics that were mentioned less often included proper cooking temperatures, cooling practices, leaving food out for long periods, and food allergies. Food recalls were not mentioned at all suggesting this may be an area for further exploration and education. Other food practices that merit attention included storing foods for long periods and washing meats with vinegar or lemon juice.

The women themselves identified several topics on which they wished to receive more information. In addition to proper refrigeration, leftover food storage, and meat thawing practices, one mother described the need to educate all mothers on proper sanitation and care of baby feeding equipment:

> *W4: If you are preparing, I read, preparing information for the newcomers, the most important thing, please, it's not for me, it's for new moms, is about when they do like um, information class on how to take care of their baby, they have to include how to prepare the formula, and when you have to sanitize the bottles, and when you give the food. I was, like, so scared during, when my baby was newborn and I was sanitizing every time she drink the milk, I boil everything, all the bottles, and I was so scared, I have to touch everything with gloves.*
> *(Immigrant Woman, September 28th, 2016)*

CONCERNS OVER FOOD QUALITY AND PRODUCTION PRACTICES

While some newcomer women expressed an interest in knowing more about conventional food safety practices, many more women were concerned with the production and quality of the food they purchased. For example, the most consistent topic discussed among immigrant women was the shift from fresh foods to food items that are frozen, canned, prepackaged or deemed less fresh. This difference in quality was of great concern to many mothers who expressed suspicion

and doubt regarding the quality and safety of meat and produce that has travelled long distances or remained on grocery store shelves for too long. One mother expressed her concerns this way:

> *W1: I think that's why the taste of the food is not that good. I find like in my country, like, I'm a non-vegetarian, so the fish, chicken, the taste in my country, I never find here. So, it's taste is completely different. I think - I'm not sure the food is… how much healthy it is, because I think the food is traveling too much and the whole frozen trucks. So, they come from - so it's difficult for food to be alive. [laughter] I think in other countries, we have a big farm, and every morning the trucks bring them to the main market, and we can go there and buy it, and that - it's pretty easy. And the food is also fresh. I think [here] food looks like fresh, but I'm not sure it's fresh, or not.*
> *(Immigrant Woman, June 20th, 2016)*

Many women were also aware of obscure processing practices that infuse food products with chemicals, pesticides, additives and other toxins. Many mothers were concerned that these processing practices could have short and long-term negative health effects, which fostered a preference for organic, fresh, local foods that ideally came directly from a farm or garden:

> *W1: … so we can educate others how to grow gardening or something like that. So, my part was the organic one. Then I did lots of research on that area and I find like the organic food is really expensive, but it's good for health. Instead of buying like four, you buy four apple, the non-organic pesticides, and you buy one apple organic, so instead of four, buy one. At least it's one organic, because the pesticide food is causing cancer, lung problems, mental diseases, at the time of birth when babies are born there's a lot of other problems. So, it's - we have to, I think, we need to understand what we want for our body.*
> *(Immigrant Woman, June 20, 2016)*

The concern over the potential harm from unknown additives in food fostered a significant amount of suspicion in many mothers that influenced their food choices. For example, one mother was so concerned about the additives and hormones in meat that she simply stopped buying it:

> *W5: - now I stopped buying meat because I know that kind of processed meat existed so I say, I don't know exactly what is meat from animals and what is processed meat. So, I stopped. I won't eat meat anymore in my house so I don't have to worry about that. (IW, February 24, 2016)*

Other women similarly described their efforts to avoid foods they deemed unsafe (e.g., avoiding canned foods) as well as different strategies for removing pesticides from produce (e.g., washing fruit with water or vinegar) because they feared the harmful effects of chemicals on their families' health. Given these concerns, food safety education should include information sessions on food production, processing, and associated risks. For example, food safety education could include explanations of canning, freezing, storing and transportation processes as well as how meat, dairy and produce are harvested and processed. Demystifying these processes will help mothers make more informed decisions that consider the cost-benefits of eating different types of food.

CULTURAL DIFFERENCES IN FOOD SAFETY

The immigrant mothers in this study described previously benefitting from interdependent foods systems where they personally knew food producers and could hold farmers and growers directly accountable for food quality and safety (e.g., farmers, neighbours with gardens). Upon arriving in Canada, however, they felt uneasy about the lack of transparency regarding food processing that involves chemicals, pesticides, preservatives, and other potentially harmful processing techniques (e.g., irradiation) that are used to preserve meat and produce before arriving at their local grocery store. This shift away from engaging with the producers of their food led many women to feel alienated from their food sources and dissatisfied by grocery stores:

> *W4: Here it's a different ballgame altogether. Because, here, you have all your shopping done in a grocery store, and you don't have where you say, okay, I need this in bulk, and okay, I could easily walk into a village market, speak with the farmer directly, and get it fresh and cheap. Everyone goes to the grocery stores; you don't have access to those farmers where you just go and pick whatever you want, at whatever quantity you want and at a bargain price, or a cheaper price. Everything is gotten from the grocery store. (IW, March 14, 2016)*

Thus, any food related recommendations and guidance that is given to newcomer populations should strive to be knowledgeable and mindful of the types of food systems newcomers are accustomed to in order to better support transitions to a Canadian food context.

Conventional food safety knowledge is also culture-bound. That is, the practices and behaviours that are encouraged by authorities to keep food safe depend on the environmental factors impacting food safety and on region-specific food processing procedures and regulations. For example, one mom described how food safety conventions differed in her home country:

> *W3: Listeria and botulin, they can grow in the tin or conserve, in my country. Like, in Iran, I don't know about here, in Canada, the process of preserve the food in the conserve or in the tin. They recommend that before you opening the tin, before the oxygen go inside, to boil it for 15-20 minutes, to kill that botulin bacteria. And then you should open it. And use it. But here in Canada, I don't know… It is recommended there in Iran, maybe a bacteria can grow inside the tin; if you boil it so the heat will kill the bacteria.*
> *(IW, September 28th, 2016)*

Other food safety differences are rooted in cultural practices that are determined by available resources. For example, one group of women explained that while refrigeration is available in their home countries, it is not often used because of power outages and because they have the time and support to cook daily. It is, therefore, not a *cultural practice* to store foods in the fridge:

> *W2: Yes, it's changed because at home, electricity does not always function.*
> *F: Ok.*
> *W2: We are obliged to buy it day by day… there are some things that we can buy day to day. For example, meat, vegetables. We have to buy them daily. Fresh salad… Fruits, daily because it doesn't stay fresh because even if we put it in the fridge, we can even spend four hours, five hours, six hours at a time without electricity.*
> *(IW, March 7, 2016)*

Thus, differences in food safety practices are closely tied to cultural factors and are not solely the result of knowledge gaps. Cultural differences like these also influence preferences for fresh

over canned or frozen foods, as prepackaged food items are not often part of traditional diets and may be regarded with suspicion. This emphasizes the need to demystify food processing procedures so newcomer mothers can make more informed choices. International differences in recommended food safety practices also point to the need to provide introductory food safety information to incoming newcomers.

In sum, newcomer women stated wanting to know more about conventional food safety practices (e.g., thawing and sanitation) while also expressing a keen interest in food production processes (e.g., additives, pesticides, hormones) that may contribute to harmful health effects (e.g., cancer, chronic pulmonary disease, mental health). Based on their experiences, it is also evident that newcomers would benefit from introductory food safety education given that food safety conventions differ cross-culturally.

NUTRITION

When asked about their desired nutrition information, many newcomer women responded that they would appreciate knowing more about the nutritional value of food especially as it relates to health. Specifically, several mothers discussed wanting to know more about adequate serving sizes, feeding frequencies, foods that prevent disease, how to preserve vitamins and minerals through the cooking process, and what foods to avoid for certain health conditions:

> *W2: Also, I'd like to know, so, what's the good, what's the food that is good for high blood pressure and the food for the different kinds of disease. So, some food they put like uh high blood pressure. So, I'd like to know more about this information.*
> *(IW, June 21st, 2016)*

However, while mothers were keenly invested in learning about food, health, and nutrition, nutrition information was not always accessible to them. For example, one mom shared a story about how she came to learn that the snack bars she was buying for her children had a higher sugar content than a serving of Coca-Cola:

> *W1: I want to mention to one thing, I see from the news, I buy snacks for my kids from Costco, the ingredient inside is healthy, because the strawberry inside, but in the internet,*

in the TV said to me is high sweeter than the cola. I think, how to make, how to write, 'is healthy for kids' as a snack? I don't know.

WX: They did research. That's why they give you information on the TV that its higher than the cola?

W1: Yes, yes. I buy it from Costco.

Wx: the yogurt?

W1: no, no, bars, inside it's jam, sometimes strawberry, sometimes berries. [multiple women agree 'yeah, yeah']

Wx: Nutri-Grain, the one NutriGrain.

W1: Nutrition, yeah. The ingredient is good for kids as snacks, but when I see on TV, she shared that it is higher sweeter than cola. And my daughter that's 11 she said, why you buy that for us? [laughter] I said, I didn't know! [laughter] I see on TV that it's higher than cola, and at school the teacher told them about the healthy, no eat sweets, and no eat high energy, because this isn't good for us. I told him, I did not know! I didn't have answer!

(IW, February 29th, 2016)

This instance suggests that in the absence of food label literacy skills, many mothers derive health information from packaging and ingredient lists rather than nutritional value tables. This emphasizes the urgency of developing a more intuitive food label system and of providing widespread food label literacy training. It also demonstrates how different forms of media are considered credible sources and are effective at relaying important health information. Children are also important sources of food and health information as they bring home messages learned at school, suggesting that label literacy training could be effectively introduced in schools.

BALANCING FOOD TRADITIONS WITH CULTURAL INTEGRATION

Several mothers also discussed the challenges of adhering to school food policies that dictate what children can and cannot bring into the school system. For example, some mothers discussed how the idea of a peanut allergy was a new concept. They, therefore, experienced difficulties in adapting to the prohibition of peanuts especially when traditional foods were made with peanut sauces:

> *W-6: Yes. You cannot bring it to school.*
> *W-1: I would like to confirm that which you say. Imagine that me, I had completely forgot that because I signed at school that we could not bring peanut butter to school. I completely forgot because we, we prepared peanut butter with meat, a good tomato sauce with peanut butter, it's really, really, good. And I gave it to them. I gave that to my kids. We got them dismissed! [LAUGHS]. They ate it in the office of the one responsible for the daycare. In fact, their lunchboxes, they put them in a bag. They telephoned me. "Madam, there, there!" [LAUGHS] "What happened? What is it that took place? Madame, there, there! We are not to bring peanut butter!"*
> *F: OK. So, that causes problems?*
> *W-1: Yes, much.*
> *(IW, May 10th, 2016)*

For some moms, sending their children to school with traditional dishes was lauded as having a positive impact on their children's health ("you are the only one whose lunch box is actually healthy") while others discussed the challenges they faced when their children were ridiculed for their traditional or non-conventional lunches:

> *W7: Because they go to school, and in the community, you talk about it. So, they don't feel like, what is it they're talking about and all that – like, my son came home one day, say, Mom, I wish you make meatballs. I say, oh, meatballs, no big deal, I'll make it. So, but I have to do it in my own way. [multiple women agree 'yeah, yeah'] Because I know he will love it. So, I made it, oh, okay, can you pack some for lunch for school for me, I say, sure. Then he packed it and say, oh, some of my friends say it's yucky, it's smelly, it's this and it's that. I said, don't bother. What is there is what is going to make you healthy.*
> *(IW, March 15th, 2016)*

Given the risk of shame and exclusion, some mothers felt pressured to provide children with high status foods (e.g., chips, Lunchables) or "Canadian" food so their children could gain social acceptance and avoid ridicule:

> *W7: And also I think, I have two kids and I'm always trying to make them used to these foods, like Canadian things. Not Canadian, but different things like rather than we have*

in my country. We used to eat rice and curry, but I used to give them salads and other things, like anything, potatoes, whatever they… I think it's beneficial, because they will, they must get used to this culture. I use them too.
(IW, March 14th, 2016)

This poses social, cultural, health, and safety concerns for many mothers as they are motivated to provide their children with nutritious, traditional meals but at the same time, must account for how those meals will impact their children's cultural integration experiences at school.

Given the potential negative consequences of dietary acculturation to the HIE, programming should focus on discovering ways to balance traditional foods with cultural adaptations by encouraging healthy, homemade, whole foods. Many mothers believed that their traditional foods were healthier than Western foods and were primarily interested in finding ways of keeping their traditions and customs despite the existing social barriers and pressures:

W7: I think here we have many fast food, like hamburgers, hot dogs, pizzas. Yeah. It's more, I can see here. And there is more popular here. Maybe one week we eat fast food once, and then my kids loved it! But it's sometimes it's too, hard for health, or.
F1: But you find you eat more fast food here?
W7: No, yeah, maybe. Because, I think, for adults, if you don't have time, you work so hard, and maybe fast food is good choice but it's not good for health.
(IW, June 20th, 2016)

This emphasizes the need for training and information on how to adhere to school food policies while providing children with nutritious lunches that facilitate cultural integration and maintain important food traditions. This also suggests that schools can play a larger role in sensitizing children to be more knowledgeable and accepting of different types of lunches and to refrain from scorning those with unfamiliar dishes.

CURRENT SOURCES OF INFORMATION FOR NEWCOMER WOMEN

The newcomer women in this study were avid information seekers who often looked for information on recipes, where to shop, discounts, sales, promotions, halal foods, nutrition, and

food safety. Women most commonly looked for recipes by word of mouth through social networks:

> *W1: By word of mouth. Me in any case, that's what I do.*
> *F: Ok.*
> *W1: When we're together with people from our communities, we talk about everything, if you buy something, something that's good. In our little communities, at church, we discuss. If you see something that's good, less expensive, less expensive anyplace, you can send a message or you can call your friend.*
> *(IW, March 7th, 2016)*

In fact, many women spoke of the importance of having a group or community to guide you through adapting to Canada and adapting to the food environment. Other moms emphasized the value of word of mouth and personal contact as critical ways to share and disseminate information. Most acknowledged that they learned the most through sharing experiences with friends, family, community members, and other immigrant mothers.

In addition to relying on word of mouth, many mothers also acquired food related information from different internet sources like Google, YouTube, phone apps like Scan Halal, and social media. Internet searches were the second most common way of finding information for many immigrant women:

> *W5: For me it's easy, I just go to YouTube and type what kind of dish I want to make and they will show me what ingredients are in it.*
> *(IW, June 21st, 2016)*

They also reported using print media, service providers like doctors, nurses, settlement workers, dieticians, social workers, as well as learning institutions like the schools their children attended or ESL classes for food related information. Often the type of information they acquired from these sources was more structured and focused on food safety, nutrition, and other settlement processes. Community centres were most often cited as the source of food safety and label literacy training.

PROVIDING INFORMATION UPON ARRIVAL

One of the most interesting recommendations made by immigrant women was the suggestion to provide all newcomers with a comprehensive list of local resources upon arrival. This suggestion came out of the acknowledgment that everyone learns how to adapt eventually. However, having information sooner could help many families save their money and adjust better, sooner. In other words, information is a critical empowerment tool. If newcomers know where to go to seek help they will likely face fewer barriers over time. Importantly, because most newcomers will not have proficient English language skills, this comprehensive resource should be translated or provided through peer mentors:

> *W-8: And there, in fact, if we could enlarge information. Even in fact recruit volunteers that could since the airport say, "Listen, Madam, you are an immigrant?" "Yes." "Call this number here. Go in this organization."*
> *W-4: Yes, that helps. Yes.*
> *W-8: "Go see this person. That could in fact help to get you started." Because often, we often come with families.*
> *(IW, May 10th, 2016)*

Making a connection such as this upon arrival is crucial as many women noted that while friends and family remain key sources of information, they are not always the most well-informed. Thus, having someone relatable and knowledgeable would go a long way toward making transitions easier.

SERVICE PROVIDER PERCEPTIONS OF NEWCOMER FOOD SAFETY, DIETARY TRANSITIONS, AND FOOD LABELLING NEEDS

FOOD SAFETY

The service providers in this study echoed many of the same needs and concerns the newcomer women identified. Regarding food safety, several service providers noted that clients tended to leave food out for long periods, employed risky thawing practices, and judged the doneness of food based on sensory cues (e.g., colour, smell, texture). However, many service providers were keen to point out that these knowledge and practice gaps were no different than those observed in

the general population ("I know that lots of Canadians do that as well"). The more pertinent issue that surfaced was the need for education and intervention on how food insecurity impacted food safety.

FOOD SAFETY, NUTRITION, AND FOOD SECURITY

Given the changes in how food is accessed and the barriers newcomer women faced in accessing their preferred foods, many of them met the criteria for food insecurity in that they could not always access preferred, safe, and nutritious food. For example, several service providers discussed how many of their newcomer clients accessed food banks to supplement what food they could purchase. However, while food banks are important sources of accessible food, they are not always the best option as many are unable to provide users with fresh food or with culturally-specific options like halal meat.

Even when halal foods are not a concern, newcomers who routinely use food banks have a difficult time adjusting to foods that are predominantly processed and unfamiliar to them, especially when they are accustomed to high quality low cost foods (e.g., free garden vegetables). Several service providers shared that many newcomer families rejected food bank items. One mother who used foodbanks expressed dismay and frustration at how produce is allocated within broader food systems in Canada:

> *W3: Sometimes the food bank helps us, but now the vegetable and fruit at the food bank, we found it is not fresh. It's not good, maybe not good for healthy. Yes, they're expired, they have that it's finished. So, I think this is a problem, because you know we don't have enough salary, so we go to food bank, but the food is now not fresh. I don't know, maybe because some store I see now, I saw, they have some departments, this is a discount, like on vegetables like tomatoes or potatoes, discount. And this is not fresh, but they keep it, they don't donation for the food bank to take it the people who have a little salary. Yes, I think this is a problem, because before I first, two months, I have been here in Canada. I see the food bank is very good, and it's fresh, the fruit and vegetable, but now because the Walmart and Superstore have a place and they keep it there, they keep the vegetable a long time, and they don't give it to a food bank or any company like to help the people, immigrant, or Canadian or refugee. Yes.*

(IW, March 2nd, 2016)

The struggle to afford quality food was a continuous theme underlying most of the conversations held with both service providers and immigrant women. The inability to secure sufficient funds for good food meant that some families resorted to eating unsafe foods rather than not eating. A key area for further investigation and discussion is, therefore, the safety of the foods that are distributed through food banks and food centres. While food banks are a key resource for low-income families, they often rely on donations of nearly expired foods. There is a difficult tension that arises when newcomers, and others experiencing food insecurity, are told what good food safety practices are (e.g., storage times, how to use best before and expiry dates) and then are handed potentially unsafe food to address their food insecurity needs. A group of conflicted service providers offered their thoughts on this issue:

SP2: and I'm giving her some of the stuff that's coming from the food bank, oh my god, I just know this is not good food –
SP1: I know! I know! It's junk, it's pasta and it's –
SP2: I know I'm contradicting myself by giving them the wrong foods, but they need to eat. And one of those things is Starbucks bakery!
SP1: I stopped, I refuse to take it now. We got rid of it.
SP2: It's just –
SP1: Talk about food safe. They just put it in a bin, it sits on the floor for two days, and then you get it, and then you turn it out to them, and I fought to stop doing that, but the supervisor was like, well, it's better than nothing. I said no it's not. No, it is not.
(Service Providers, June 20th, 2016)

It is, thus, important to recognize and consider the ways that food security, food safety, and nutrition intersect. Newcomer families cannot be expected to adhere to good food safety and nutrition practices when they are faced with dire financial straits and when they are asked to overlook food safety conventions when obtaining food bank items. In other words, food security must be addressed to successfully improve food safety and nutrition practices. Moreover, interventions addressing food security should strive to adopt a "good food for all" approach that provides accessible, good quality foods with dignity.

HEALTHY DIETARY TRANSITIONS

Lower incomes, decreased food budgets, lack of access to preferred quality and ethnic foods, and increased access to processed convenience foods culminate into the dietary changes that contribute to the decline of the HIE. Many service providers noted that their clients were eating increasing amounts of processed foods, often because they were more affordable and convenient:

> *SP: Um, I think maybe it's not the most important but it's one that I see a lot is, you know, they're sending their kids to school and the kids want to eat what other people are eating and may not necessarily eat the healthy cultural foods, they want the bologna sandwich or the Lunchables, or they want the Nutella because they've seen lots of advertising for Nutella, so I'm forever talking about, you know, less sweet drinks, less sweet in general and using more whole grains, and trying to get kids to eat vegetables and fruit rather than packaged food all the time. There's a lot of pressure on them I think to give their kids things that other kids have in packages. I mean I feel myself as a mom who's been here most of her life, I feel the pressure from my kids that they want those things. So, that's something I see.*
> *(SP, July 6th, 2016)*

Given the potential negative consequences of dietary acculturation and decline of the HIE, service providers discussed the importance of providing programming that promotes eating traditional foods and making healthy dietary adaptations by encouraging homemade meals and whole foods. One service provider described doing precisely this by implementing a program that caters to the groups' specific needs and works with them to brainstorm healthy transition strategies:

> *SP: yeah, so that's kind of why we developed the nutrition program that we're running now is to kind of facilitate a healthier transition. Um, you know, encourage them to try and maintain their traditional diet as much as possible in many cases. Um, but also, you know, helping them to make some healthy adaptations because obviously, some adaptations are necessary. Um, they can't find a lot of their traditional foods here, they're not fresh, they're expensive. Um, yeah so that's kind of the main thing. So, we just try to like you know help them to eat healthy in a Canadian context. So, you know, about*

processed foods, and the health benefits of continuing to make your food from scratch, um you know, once you do learn English how to read a food package and, you know, tell if a food is healthy or not. You know, those types of things.
(SP, September 7th, 2016)

FOOD LABEL LITERACY IS A NECESSITY

Many newcomers are faced with dire financial straits and must adjust based on limited budgets. This often means they do not have access to fresh quality foods, and must make compromises and buy processed foods. When processed, high calorie foods are available at cheaper prices than non-processed foods, many immigrant mothers find it difficult to choose whole foods. Given the risks of developing chronic diseases because of these patterns in dietary changes, label literacy becomes ever more important so that immigrant mothers that buy processed foods can compare the nutritional value of different kinds of foods and make healthier, safer choices. However, labels were unanimously perceived as inaccessible and difficult to understand and use. Newcomers face additional challenges when it comes to reading labels given that the English language is new to them and the terminology used on labels is often unfamiliar and difficult to understand even for native English speakers. Ingredient lists, for example, were criticized by both immigrant women and service providers for using inaccessible language for common ingredients like salt and sugar.

Currently, labels pose a serious barrier to healthy eating because their inaccessibility means many newcomers are not using them to guide their food choices. As one service provider recounted, in the absence of additional information, newcomers, and Canadians in general, will buy food according to their budgets:

W: And elsewhere, in my opinion, they don't have to buy a lot of canned foods or processed products. There are a lot of unprocessed products that they know, they will take them then but they will not necessarily look for - for example cornstarch, cornstarch. They're aren't looking for, you know, a kind better than another or what's in it because, well, there's not much in it. But I would say yes. It's for sure one of their … And I do not think they necessarily look for – for instance from what I've seen – to read the labels now. Above all, in the short term, what I find, is if I need ... For example, this happened:

> *I remember it was at Walmart and there was Nutella, two jars for $11, two big jars. And I will tell you that in the group, half of them bought the jars of Nutella. [LAUGHS]*
> *(SP, September 13, 2016)*

To attenuate this trend, one service provider suggested that when language barriers preclude using labels, staying away from food products with labels was one strategy for choosing healthier foods. However, until a better system is put in place, it is imperative that food label literacy is made available to all newcomers[2].

FOOD LITERACY TRAINING IS EFFECTIVE

While some service providers included label literacy in their educational interventions, others suggested nutrition labels were so inaccessible they simply encouraged newcomers to avoid packaged foods. However, for those who use prepackaged foods, label literacy remains an important need. Fortunately, several community centres provide label literacy training and clients who have developed the appropriate food literacy skills often refer to labels when shopping:

> *SP1: We have university nursing students, that visit us on a regular basis, and I'm pretty sure they're doing the same topics as they're doing for us (yeah), and reading a food a label would be included on that, so there are 20 women who are going to hear about it. Do I believe they're reading it? No. I think a lot of them can't read the label, and the ones who can, are still kind of the, "Oh well, it's not good for me but I'm still going to buy it." So, the labels are not really having an impact on people, but the food skills ladies are all still reading them. The ones who took that course.*
> *(SP, June 20th, 2016)*

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[2] The Guiding Star initiative (https://guidingstars.ca/) is an interesting take on accessible nutritional information. While it has its limitations, it is worth noting that there is considerable consensus regarding the need for a more intuitive system.

Thus, providing newcomers with accessible label literacy workshops is one way of empowering immigrant women and facilitating safe and healthy food transitions.

NEED FOR ACCESSIBLE RESOURCES

In addition to noting the shortcomings of food labels, many service providers also discussed the need to improve the accessibility of food safety and nutrition resources. While there is a plethora of information on food safety and nutrition available to the public online, some of these materials are difficult to locate and require higher language proficiencies than most newcomers possess, making them largely inaccessible. When asked how to improve existing resources, service providers agreed that information must be easy to find, easy to understand, and easy to use. This means using simple language to explain multiple steps (e.g., steps to hand washing), using visual aids and diagrams, and translating text into multiple languages when possible.

Photo Source: Pixabay.

DISCUSSION

SUMMARY OF FINDINGS

The findings from this study echo what has been documented by other researchers. For example, in Hyman et al.'s (2002) review of healthy eating among immigrant women, the authors identified five major determinants of health for immigrant women that resonate with the findings in this study.

CULTURE AND FOOD

First, culture and ethnicity are deeply tied to food and food practices given that types of food consumed and ways of preparing food are both an expression of ethnic identity and a means of transmitting cultural values and traditions to offspring. Similarly, the women in this study expressed a preference for traditional foods and a desire to pass on cultural values through food. However, like the women interviewed in Lessa and Rocha's (2012) study, cultural foods were sometimes stigmatizing and subject to ridicule when packed into school lunches. Interventions should, thus, be culturally sensitive and delivered in compassionate ways that demonstrate an understanding of cultural contexts, community needs, and social pressures. Differences should be respected when advocating for certain food safety and nutrition practices as cultural food philosophies and approaches have implications for preferred foods, what is considered healthy, and what are good food safety practices. Together, these findings emphasize the need to build in cultural sensitivity and appreciation into our institutions, and to celebrate diverse food traditions.

LANGUAGE BARRIERS

Second, access to nutrition information is largely circumvented by language barriers that prevent newcomers from interpreting food labels in the absence of training (Hyman et al., 2002). Likewise, both service providers and newcomer women in this study discussed the difficulties they experienced in making sense of food labels. The inaccessibility of labels meant other factors, like stringent budgets, were used to guide food purchasing behaviours. A New Zealand study reported similar results based on interviews with parents of young children. They found

that nutrition labels had little impact on food choices because they were inaccessible and because parents faced competing demands like money and time (Maubach, Hoek, & McCreanor, 2009).

AVAILABLE FINANCIAL RESOURCES

Third, the availability of healthy, good quality food is dependent upon financial resources in that many immigrant women prefer fresh meat and produce, and imported cultural goods that are often costly (Hyman et al., 2002; Rodriguez, 2016). Likewise, the most prominent theme that arose out of this study was that changes in access to food required newcomer mothers to switch from affordable, fresh foods to inexpensive processed foods or to incur a higher cost for higher quality foods. Lessa and Rocha (2012) similarly identified access and cost as serious barriers to acquiring healthy foods.

POVERTY AND DIET

The fourth determinant identified by Hyman et al. (2002) concerned the relationship between poverty and diet. Limited financial resources mean many newcomers must supplement their diets with food bank items. However, those that access food banks often perceive them as stigmatizing and intrusive as food bank items are often of low quality items that may not be reflective of diverse cultural cuisines. While only one newcomer mother discussed her experiences with food banks, service providers reported similar findings where clients rejected food bank items or were further disadvantaged because halal foods were not offered. Encouragingly, there is now a movement toward community food centres that emphasize providing free, high quality food with dignity (Saul & Curtis, 2013).

ACCULTURATION

Fifth, the degree of acculturation is thought to impact how quickly and how extensively a Western diet is adopted. This is in turn influenced by the age of immigrants, length of stay in host country, and level of participation in Western culture. Our study focused on women who had arrived within the past 5 years and so could not assess the effects of length of stay on diet. However, many women discussed purposefully introducing Western foods into their diets to integrate their families into Canadian culture.

FOOD SAFETY

Our study also explored immigrant women's food safety knowledge and habits and found that many were well-versed in food safety procedures and most were interested in learning more. As discussed, the variation in food safety knowledge that was identified by participants in this study was not unique to immigrant populations. It has been well-documented that food safety knowledge is moderate in the greater population. For example, risky thawing practices, cooling and food storage, judging doneness of meat, and use of expiry dates remain a common concern among North Americans generally (Meysenburg et al., 2014). Thus, it is important to provide introductory and advanced food safety education to newcomers *and* the general Canadian population. However, the delivery of information to newcomers should be tailored to consider some of the differences of experience discussed in this report (e.g., culture-based food restrictions, different cultural beliefs and practices, language barriers, etc.).

Finally, it is important to note what was not discussed. The women in this study seldom mentioned reading storage or food safety information on labels, did not indicate whether they were aware of food recalls, and only a few mentioned food allergies. Similar to other research, the concept of food allergies is often new to many immigrant families and is only discovered once their children are enrolled in school and require peanut-free lunches (Harrington, Dean, Wilson, & Qamar, 2014). Thus, more research is needed concerning newcomers' experiences with food recalls, use of food safety information on labels, and food allergy information needs.

LIMITATIONS

The results of this study are compelling and suggest several possible avenues for future research and intervention. However, the views and experiences represented here are limited to those who either worked at community centres (service providers) or accessed their services (newcomer women). Those who are connected to community centres differ in important ways form those who are not connected. For example, service providers who work at community centres are more likely to see motivated newcomers than settlement workers or immigration officers who interact with a larger population of newcomers. The newcomer women we spoke with also differ in that they have a relative advantage over others *because* they have sought out services from their local community centres. A far larger number of immigrant families do not connect with

available services and may experience additional challenges and barriers as they adjust to life in Canada without the benefit of formally organized community and social services.

Those who participated were also advantaged by their language proficiency. While our recruitment procedures allowed for other language speakers to participate, all focus groups were held in either English or French, and those with a better command of either language were better able to participate and, thus, have their experiences represented. French and English are also the two official Canadian languages, which are needed to gain employment and move through Canadian spaces with increased ease. This means that the women who did participate and are most represented through their words are the ones who are most likely to adapt well in a new country as they speak the language and have sought out community services. In fact, previous research has demonstrated that those with greater language proficiency fare better when it comes to adjusting to a host culture (Vahabi & Damba, 2013) and that those who connect with community resources like community gardens and collective kitchens reap many benefits (Fano, Tyminski, & Flynn, 2004; Harris, Minniss, & Somerset, 2014). This suggests that future research should aim to recruit immigrant families who do not speak either French or English and who do not currently access community services to gain a more complete understanding of the myriad of food related challenges across diverse groups of newcomers.

A third way the participants in this study differ is that most resided in major urban centres. Those who reside in smaller cities, suburbs or rural areas may experience a different set of challenges. In fact, even with regards to urban living, significant differences were found in this study between those who lived in smaller cities and those in global cities. Newcomer women who lived in smaller cities were not able to access their traditional foods and often had to choose between food and other needs. Immigrant women who lived in larger metropolises, however, could maintain their cultural traditions because a large immigrant population preceded them. In other words, those that live outside of major cities are likely to experience additional barriers to healthy transitions.

CONSIDERATIONS FOR POLICY AND INTERVENTIONS

DIFFERENCES OF EXPERIENCE

It is important to note that not all mothers in this study experienced the same barriers in obtaining quality and preferred foods. For example, some mothers described eating the same foods they ate in their home countries because they were widely available in mainstream grocery stores or they had the means with which to obtain traditional food items. Others described radical changes in their diet as maintaining their traditional cuisines was financially unsustainable. Others still, kept eating their traditional foods but opted to incorporate more Western and Canadian foods into their diet because they: a) were curious, b) developed a taste and preference for Western foods, c) were asked by their children for more Western foods, or d) because they wished to integrate into Canadian culture through food. Differences of experience are, thus, critical to consider when designing and implementing interventions and food policies because the same interventions and policies may not prove effective for everyone. This emphasizes the importance of working with communities to meet their specific needs.

CONFLICTING MESSAGES

As discussed, many women prefer organic foods because they are concerned about the negative health effects of pesticides, chemicals, additives and preservatives. However, while Health Canada conveys messaging that pesticide residue on produce is not a health risk, the consumption of pesticides on produce prompted the non-governmental organization, Environmental Working Group (EWG), to publish a yearly list of “dirty dozen” produce items that contain the highest pesticide content so that consumers can make informed selections (Beck, 2015). These conflicting messages are especially important when they have policy implications that determine what type of information is being provided. Conflicting messages should also be a consideration when developing and disseminating educational materials. Different perspectives and arguments should be represented so that newcomers and other users can decide which food risks they wish to take.

MAKING FOOD A PRIORITY

The best way to make food a priority is by addressing multiple needs simultaneously. That is, if newcomers are struggling to find housing and gain employment, this will negatively impact their ability to secure safe and nutritious food. It is telling that food security was not an explicit focus of this study but surfaced as a key factor impacting both food safety and nutrition. Perhaps the most important information needed to ensure healthy eating in the face of limited income and food insecurity is where to access high quality yet affordable foods. Several urban centers have great community resources that are filling this gap and working to bring fresh, local and nutritious foods to low-income families. Some studies have documented the positive impact of community gardens and collective kitchens on the well-being and adaptation of refugees and the general population (Fano et al., 2004; Harris et al., 2014). Other cities have documented the positive outcomes of progressive food distribution centres like the Stop in Toronto (Saul & Curis, 2013) and the Canadian Food Centre movement more generally (for more information visit https://cfccanada.ca/).

Other cities also have direct from farm programs, like the Good Food Box, that offer a range of fresh, local produce at affordable prices. While there are some limitations to these programs, they are examples of services that could better meet some of the needs of newcomer families. Finally, given the impact of food insecurity on food safety, it is important that food safety education be delivered in holistic and strategic ways that work *with* newcomers to overcome these barriers.

RECOMMENDATIONS

Based on the results of this study and areas of convergence with previous research, the following recommendations are critical to ensure safe food for all:

1. **Improving access to good food.**
   - i. Access can be improved by providing newcomers with a comprehensive list of places where they can acquire affordable high quality foods. This may include local farmer's markets, butchers, and bakeries, as well as direct from farm options like the Good Food Box. This list should include local ethno-cultural grocers as well as other shops that may sell similar items for less.
   - ii. Newcomers would also benefit from a comprehensive list of subsidized and free food options that are tailored to overcome barriers. This may include services like mobile produce markets, collective kitchens, food drop-ins, food banks, community food centres, and community gardens.
   - iii. These resources should be made available upon arrival.
2. **Making food safer.**
   - i. The importance of food safety practices should be stressed by emphasizing personal risk and vulnerability to foodborne illnesses. This should be done in conjunction with addressing other barriers to food safety (e.g., competing demands, food insecurity).
   - ii. Free and accessible introductory and advanced food safety education should be made widely available in a variety of formats that are not dependent on language proficiency. The content should cover conventional topics, emphasize personal risk, and use culturally diverse examples.
   - iii. Food safety education should include an explanation of the most common food processing techniques used in Canada with a value-neutral presentation of associated risks and benefits. Specifically, food safety education should include a discussion of the potential risks of pesticides, preservatives, food additives, hormones, irradiation, canning procedures, and freezing techniques.
   - iv. Food safety education should include suggestions for how to obtain fresh and chemical free foods at a lower cost so newcomers can decide what works best for

them. These strategies may include shopping for seasonal produce, buying from small-scale farmers, or consulting published lists of produce that contain the most pesticide residue.

3. **Promoting healthy transitions**
    i. To promote healthy transitions, label literacy training should be made widely available and accessible so newcomers can meaningfully compare the nutritional value of food items. Label literacy training should also include a section on how to identify halal and kosher foods as well as other ingredients of interest to those with alternative dietary needs (e.g., gluten-free, vegan, vegetarian).
    ii. Label literacy initiatives should include training on how to separate health information from promotional packaging and how to evaluate the veracity and utility of health claims.
    iii. Newcomers would benefit from programming geared toward exploring ingredient substitutions and making healthy recipe adaptations, so they may keep eating traditional foods despite accessibility and availability barriers.
    iv. Finally, schools should move towards teaching cultural diversity and inclusivity. For example, schools can incorporate food diversity education into their curriculum to prevent the shaming and ridiculing of children with non-Western lunches. One tool that has been developed with this goal in mind is the children's book "What's for Lunch: How School Children Eat Around the World," which comes with a teacher's guide (Curtis, 2013)
4. **Making food education accessible and personal**
    i. Given that most newcomers use their social networks to learn about their new surroundings, food safety and nutrition information should use these circuits of information to disseminate materials. One way to optimize the use of these networks would be to deliver food related information through knowledgeable peer mentors. Ideally, peer mentors would be available to newcomers upon arrival and assist in connecting families to appropriate community resources and services.

In sum, there are many ways that food transitions can be improved for newcomers in Canada. Given the potential risks and consequences of dietary acculturation and the trend toward

decreasing health, it is imperative that some of these recommendations be implemented immediately. Promisingly, many initiatives are already underway and should be expanded and supported to better meet the needs of newcomer families.

Photo Source: Pixabay.

REFERENCES

Alton Mackey, M., & Metz, M. (2009). Ease of reading of mandatory information on Canadian food labels. *International Journal of Consumer Studies, 33,* 369-381. doi: 10.1111/j.1470-6431.2009.00787.x

Anderson, L. C., Mah, C. L., & Sellen, D. W. (2015). Eating well with Canada's food guide? Authoritative knowledge about food and health among newcomer mothers. *Appetite, 91,* 357-365**.**

Beck, L. (2015, November 9). What's the best way to remove pesticides from fruit and vegetables? *The Globe and Mail.* Retrieved from http://www.theglobeandmail.com/life/health-and-fitness/health/whats-the-best-way-of-removing-pesticides-from-fruits-and-vegetables/article27178000/

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3,* 77-101. doi: 10.1191/1478088706qp063oa

Citizenship and Immigration Canada (2015, September 11). *Facts and figures 2014 – Immigration overview: Permanent residents*. Retrieved from http://www.cic.gc.ca/english/resources/statistics/facts2014/glossary.asp

Curtis, A. (2013). *What's for lunch? How schoolchildren eat around the world: Teacher's Resouce.* Retrieved from http://www.fitzhenry.ca/usercontent/Fitzhenry/Marketing_imagery/Teachers-Guides/PDFs/WhatsForLunchTG.pdf

Dean, J. A., & Wilson, K. (2010). "My health improved because I always have everything I need here…": A qualitative exploration of health improvement and decline among immigrants. *Social Science and Medicine, 70,* 1219-1228. doi: 10.1016/j.socscimed.2010.01.009

Desjardins, E., Azevedo, E., Davidson, L., Samra, R., MacDonald, A., Thomas, H., … Shukla, R. (2013). *"Making something out of nothing": Food literacy among youth, young pregnant women and young parents who are at risk for poor health.* Retrieved from https://www.publichealthontario.ca/en/ServicesAndTools/Documents/LDCP/LDCP.Food.Skills_Report_WEB_FINAL.pdf

Dobhal, S., Zhang, G., Royer, T., Damicone, J., & Ma, L. M. (2014). Survival and growth of

foodborne pathogens in pesticide solutions routinely used in leafy green vegetables and tomato production. *Journal of the Science of Food and Agriculture, 94,* 2958-2964. doi: 10.1002/jsfa.6640

El Hassan, D. A., & Hekmat, S. (2012). Dietary acculturation of Arab immigrants in the Greater Toronto Area. *Canadian Journal of Dietetic Practice and Research, 73*(3), 143-146.

Esterberg, K. G. (2002). *Qualitative methods in social research.* Boston: McGraw-Hill.

Fano, T. R., Tyminski, S. M., & Flynn, M. A. T. (2004). Evaluation of a collective kitchens program. *Canadian Journal of Dietetic Practice and Research, 65*(2), 72-80. doi: 10.3148/65.2.2004.72

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems, 12,* 436-445.

Greder, K., Romero de Slowing, F., & Doudna, K. (2012). Latina immigrant mothers: Negotiating new food environments to preserve cultural food practices and healthy child eating. *Family and Consumer Sciences Research Journal, 41*(2), 145-160. doi: 10.1111/fcsr.12004

Hall, C., & Osses, F. (2013). A review to inform understanding of the use of food safety messages on food labels. *International Journal of Consumer Studies, 37,* 422-432. doi: 10.1111/ijcs.12010

Harrington, D. W., Dean, J., Wilson, K., & Qamar, Z. (2014). “We don’t have such a thing, that you may be allergic”: Newcomers’ understandings of food allergies in Canada. *Chronic Illness, 11,* 126-139. doi: 10.1177/1742395314546136

Harris, N., Minniss, F. R., & Somerset, S. (2014). Refugees connecting with a new country through community food gardening. *International Journal of Environmental Research and Public Health, 11,* 9202-9216. doi: 10.3390/ijerph110909202

Henley, S. C., Stein, S. E., & Quinlan, J. (2012). Identification of unique food handling practices that could represent food safety risks for minority consumers. *Journal of Food Protection, 75*(11), 2050 – 2054. doi: 10.4315/0362-028X.JFP-12-146

Hyman, I., Guruge, S., Makarchuk, M., Cameron, J., & Micevski, V. (2002). Promotion of healthy eating: Among new immigrant women in Ontario. *Canadian Journal of Dietetic Practice and Research, 63*(3), 125-129. doi: 10.3148/63.3.2002.125

Koro, M. E., Anandan, S., & Quinlan, J. J. (2010). Microbial quality of food available to

populations of differeing socioeconomic status. *American Journal of Preventative Medicine, 38,* 478-481. doi: 10.1016/j.amepre.2010.01.017

Krueger, R. A., & Casey, M. A. (2009). *Focus groups: A practical guide for applied research* (4th ed.). Thousands Oaks: Sage.

Lessa, I., & Rocha, C. (2012). Regrounding in infertile soil: Food insecurity in the lives of new immigrant women. *Canadian Social Work Review, 29,* 187-203.

Levy, A. S., Choinière, C. J., & Fein, S. B. (2008). Practice-specific risk perceptions and self-reported food safety practices. *Risk Analysis, 28,* 749-761. doi: 10.1111/j.1539-6924.2008.01051.x

Maubach, N., Hoek, J., & McCreanor, T. (2009). An exploration of parents' food purchasing behaviours. *Appetite, 53,* 297-302. doi: 10.1016/j.appet.2009.07.005

Meysenburg, R., Albrecht, J. A., Litchfield, R., & Ritter-Gooder, P. K. (2014). Food safety knowledge, practices and beliefs of primary food preparers in families with young children. A mixed methods study. *Appetite, 73,* 121-131. doi: 10.1016/j.appet.2013.10.015

Popovic-Lipovac, A., & Strasser, B. (2015). A review on changes in food habits among immigrant women and implications for health. *Journal of Immigrant Minority Health, 17,* 582-590. doi: 10.1007/s10903-013-9877-6

Quinlan, J. (2013). Foodborne illness incidence rates and food safety risks for populations of low socioeconomic status and minority race/ethnicity: A review of the literature. *International Journal of Environmental Research and Public Health, 10,* 3634-3652. doi: 10.3390/ijerph10083634

Rao, G. M. S., Sudershan, R. V., Rao, P., Rao, M. V. V., & Polasa, K. (2007). Food safety knowledge, attitudes and practices of mothers – Findings from focus group studies in South India. *Appetite, 49,* 441-449. doi: 10.1016/j.appet.2007.02.011

Ristovski-Slijepcevic, S., Chapman, G. E., & Beagan, B. L. (2008). Engaging with healthy eating discourse(s): Ways of knowing about food and health in three ethnocultural groups in Canada. *Appetite, 50,* 167-178. doi: 10.1016/j.appet.2007.07.001

Rodriguez, P. I., Dean, J. D., Kirkpatrick, S., Berbary, L., & Scott, S. (2016). Exploring

experiences of the food environment among immigrants living in the Region of Waterloo, Ontario. *Canadian Journal of Public Health, S1,* eS53-eS59. doi: 10.17269/CJPH.107.5310

Rosenmöller, D. L., Gasevic, D., Seidell, J., & Lear, S. A. (2011). Determinants of changes in dietary patterns among Chinese immigrants: a cross-sectional analysis. *International Journal of Behavioral Nutrition and Physical Activity, 8*(42), 1-8.

Rothman, R., L., Housam, R., Weiss, H., Davis, D., Gregory, R., Gebretsadik, T., … Elasy, T. A. (2006). Patient understanding of food labels: The role of literacy and numeracy. *American Journal of Preventive Medicine, 31,* 391-398. doi:10.1016/j.amepre.2006.07.025

Saul, N., & Curtis, A. (2013). *The Stop: How the fight for good food transformed a community and inspired a movement.* Toronto: Random House.

Sanou, D., O'Reilly, E., Ngnie-Teta, I., Batal, M., Mondain, N., … Bourgeault, I. L. (2014). Acculturation and nutritional health of immigrants in Canada: a scoping review. *Journal of Immigrant and Minority Health, 16,* 24-34.doi: 10.1007/s10903-013-9823-7

Statistics Canada (2011). *National Household Survey: Immigration and ethnocultural diversity in Canada (Catalogue no. 99-010-X2011001)*. Retrieved from http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-010-x/99-010-x2011001-eng.pdf

Statistics Canada (2016, June 29). 150 years of immigration in Canada. *The Daily: Canadian Megatrends.* Retrieved from http://www.statcan.gc.ca/pub/11-630-x/11-630-x2016006-eng.htm

Stenger, K. M., Ritter-Gooder, P. K., Perry, C., & Albrecht, J. (2014). A mixed methods study of food safety knowledge, practices and beliefs in Hispanic families with young children. *Appetite, 83,* 194-201. doi: 10.1016/j.appet.2014.08.034

Vahabi, M., & Damba, C. (2013). Perceived barriers in accessing food among recent Latin American immigrants in Toronto. *International Journal for Equity in Health, 12*(1), 1-11. doi: 10.1186/1475-9276-12-1

Vahabi, M., Damba, C., Rocha, C., & Montoya, E. C. (2011). Food insecurity among Latin American recent immigrants in Toronto. *Journal of Immigrant and Minority Health, 13,* 929-939. doi: 10.1007/s10903-010-9384-y

Vallianatos, H., & Raine, K. (2008). Consuming food and constructing identities among Arabic

and South Asian immigrant women. *Food, Culture & Society, 11*(3), 355 – 373.

Vang, Z., Sigouin, J., Flenon, A., & Gagnon, A. (2015). The healthy immigrant effect in Canada: A systematic review. *Population Change and Lifecourse Strategic Knowledge Cluster Discussion Paper Series/Un Réseau stratégique de connaissances Changements de population et parcours de vie Document de travail, 3*(1), 1–43.

Varga, C., Pearl, D. L., McEwen, S. A., Sargeant, J. M., Pollari, F., & Guerin, M. T. (2013). Evaluating area-level spatial clustering of Salmonella Enteritidis infections and their socioeconomic determinants in the greater Toronto area, Ontario, Canada (2007-2009): A retrospective population-based ecological study. *BMC Public Health*, *13,* 1078-1095.

Varghese, S., & Moore-Orr, R. (2002). Dietary acculturation and health-related issues. *Canadian Journal of Dietetic Practice and Research, 63*(2), 72-79.

Wilcock, A., Pun, M., Khanona, J., & Aung, M. (2004). Consumer attitudes, knowledge and behaviour: A review of food safety issues. *Trends in Food Science & Technology, 15,* 56-66. doi: 10.1016/j.tifs.2003.08.004

Wilkinson, S. (1999). Focus groups: A feminist method. *Psychology of Women Quarterly, 23,* 221-224.

Williams, P. L., MaCaulay, R. B., Anderson, B. J., Barro, K., Gillis, D. E., Johnson, C. P., … Reimer, D. E. "I would have never thought that I would be in such a predicament": Voices from women experiencing food insecurity in Nova Scotia, Canada. *Journal of Hunger & Environmental Nutrition, 7,* 253-270. doi: 10.1080/19320248.2012.704740