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# Immigration and Food Insecurity: The Canadian Experience—A Literature Review

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## Abstract

Canada is a popular destination for immigrants and integration of newcomers is an important strategy for its demographic growth and economic development. Food insecurity disproportionately affects newcomers in Canada; unfortunately, they occupy the lower end of the socio-economic spectrum and thus adding to the burden of socio-cultural challenges they are already facing. The high level of food insecurity contributes to poor diet quality and the rise in overweight and other chronic health conditions and therefore to the loss of healthy immigrant status. Indeed, statistical evidence, mainly of the overall Canadian population, demonstrates that individuals living in food-insecure households have higher rates of self-reported poor health and chronic health conditions. Therefore, understanding and properly addressing the factors associated with food insecurity among Canadian immigrants is crucial for an adequate integration of immigrants. This chapter suggests that an adequate and appropriate understanding of food security for Canadian immigrant populations requires consideration of a cultural perspective in addition to the traditional individual, household and community levels and the development of measurement tools to capture this cultural dimension. It is proposed the concept of cultural food insecurity encompasses the four usual dimensions (availability, accessibility, utilization, and stability) and a newly proposed fifth cultural dimension. Future research should aim at validating the relevance of this cultural perspective as a fifth pillar for food security and developing measurement tools to assess it.

**Keywords:** Canada, Acculturation, food insecurity, availability, accessibility, utilization, stability, cultural appropriateness, immigration, nutritional health

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## 1. Introduction

Upon arrival to Canada, immigrants present fewer health risk, lower levels of disability as well as fewer chronic conditions compared to Canadian-born individuals [1, 2]. However,

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their health status deteriorates with the number of years spent in Canada and converges to that on the native-born populations. For instance, it was noted that recent immigrants had fewer chronic conditions than Canadian-born individuals, but that there is a gradual decline in health status over time in Canada [2]. Also, the rate of obesity among immigrants was found to be substantially lower than their Canadian-born counterparts but increase with their duration of stay in Canada [3]. This trend among immigrants has been noted in several other western countries and has been called the “*healthy immigrant effect*” [4].

An extensive body of research has focused on exploring the “*healthy immigrant effect*” in Canada as well as in other western countries. A number of mechanisms contribute to this decline in health status, including diet and lifestyle changes, reduction of socioeconomic status, social exclusion, and a medical system that is suboptimal in culturally competent care. In terms of the impact of immigrants’ diet on their health, food insecurity, if overlooked or not addressed enough, can compromise the nutritional and mental health of immigrants. Furthermore, food insecurity can have an effect on immigrants’ diet and lifestyle changes, as they tend to converge to that of Canadian-born individuals.

The purpose of this chapter is to shed light on a number of issues that affect the food security situation of Canadian immigrants. As part of our research investigating the health of Canadian immigrants, we gathered data from peer-reviewed research and other reliable government publications in order to provide easy access to current evidence on these issues and to inform the development of policies and programs that address food insecurity issues experienced by Canadian immigrants.

## **2. Immigration to Canada in perspective**

Canada is a popular destination for immigrants and their integration is a central strategy for the country’s demographic growth and economic development. Since 1988, Canada has welcomed an average of 230,000 immigrants per year. In 2011, the immigrant population in Canada was approximately 20.6% of the total population, or roughly 6.8 million people. By 2031, it is expected that the foreign-born population in Canada will be over 25% of the population [5]. Immigrants to Canada come from over 200 countries, and are thus a tremendously culturally diverse group. This presents a number of challenges for culturally sensitive integration strategies, such as in the workplace, in the community, or in the healthcare context.

The majority of newcomers to Canada settle in urban areas. Predominantly, Canada’s three largest metropolitan areas (Toronto, Vancouver, and Montreal) accounted for about two thirds (62.5%) of new arrivals. Combined, the three largest visible minority groups (South Asians, Chinese, and Blacks) accounted for 61.3% of the visible minority population in 2011 [6]. In Vancouver, Chinese were by far the largest visible minority group. On the other hand, Ontario was the province that received the highest number of immigrants each year and the majority of francophone immigrants settling outside Quebec (69%) [7].

Newcomers choose to immigrate to Canada for a variety of reasons, including world-class education, clean environment, safety and security, and better financial prospects. In fact,

Canada performs very well in various measures of well-being compared to most other countries as given in the Organization for Economic Cooperation and Development's (OECD) *Better Life Index*, which allows the comparison of well-being across countries based on various essential topics [8]. Canada ranks above the average in housing, subjective well-being, personal security, health status, income and wealth, social connections, environmental quality, jobs and earnings, education and skills, work-life balance, and civic engagement.

With about 6.8 million immigrants living in Canada, there is no doubt that immigrants have an important economic effect and create cultural changes. A large and growing body of evidence into the economic impact of immigrants on their host countries has been conducted in developed countries. The evidence largely points to positive effects, including the growth and expansion of the skilled labor pool, significant contributions to research and innovation, as well as entrepreneurial activity and trade [9]. In fact, Canada's work force is aging and this demographic change points to impending labor shortages in the near future. Undeniably, labor shortages could become severe in every part of the country regardless of economic situations. Policy-makers across Canada have called for growing levels of immigration to help counteract the aging baby boomer generation.

Research on the economic impact of immigration supports the idea that immigration has reinforced the Canadian economy and local communities in numerous ways, especially by diversifying and enriching the labor pool. As of 2011, immigrant workers constituted 22% of the Canadian labor force and had accounted for 41% of growth in the Canadian labor force since 2006 [10]. Additionally, immigrants contribute to the tax base, invest in local business, create new businesses and jobs, innovate, and offer valuable trade and cultural ties with their home countries [11]. Furthermore, newcomers' cultures, including what they eat and the social activities in which they take part, tend to change over time to and gets closer to the Canadian culture.

### **3. Current situation of food insecurity among Canadian immigrants**

#### **3.1. Concept of food insecurity**

The concept of food security was introduced in global debates in the mid-1970s, with a primary focus on food supply problems, more specifically, on the availability of enough foods to cover global and national needs [12, 13]. Since then, the definition of food security has considerably evolved from the global and national hunger and food crisis perspective to encompass food availability, access, and consumption at household level and its consequences on individual well-being over time.

The initial definition of food security was provided by the 1974 World Food Summit as:

*“availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices”* [14].

After a series of international consultations, the 1996 World Food Summit adopted a more careful redefinition that goes beyond the global supply and price perspectives to include economic accessibility and health dimensions at household and individual levels:

*“Food security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” [15].*

The most commonly used definition is a slightly modified version proposed by the FAO in the State of Food Insecurity (SOFI) 2001:

*“Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” [16].*

Based on this SOFI 2001 definition, food insecurity therefore exists when people do not have adequate physical, social, or economic access to food as defined above. Household *food insecurity* is the application of this *concept* to the family level, with individuals within households as the focus of concern [12]. Households that are food insecure have trouble, or concern about, consistently accessing adequate and nutritionally adequate foods.

The definition of food security encompasses four dimensions: availability, access, utilization, and stability [17]. The availability dimension refers to the production and supply (including food aid) of sufficient quantities of food of appropriate quality to nourish the entire populations and is concerned with global, national, household, and individual levels. The access dimension includes both physical access and economic affordability of appropriate foods for a nutritious diet. While in many developing countries, food access mainly lies on productive capacities, accessibility in Canada is concerned with the economic ability of individuals and households to purchase food in the market system and is therefore dependent to the purchasing power. It is for this reason that, using a standard multiple-indicator measure of food security, Health Canada linked the issue to income-related food insecurity in Canada [18]. Utilization refers to the ability of individuals and households to make healthy food choices in their local environments and use the food procured in such a way that it meets their dietary needs. The utilization pillar requires nonfood-related inputs such as clean water, sanitation, and health care to reach a state of nutritional well-being where all physiological needs are met [17]. It also takes into account postharvesting management and processing, food safety, consumption patterns, dietary diversification, and intra-household distribution. The stability dimension refers the ability to ensure the above three dimensions at all times. The stability principle suggests that households and individual access to nutritious foods should not be compromised by any shock (economic crisis, natural and human-made disasters).

Most food security-related policies and program research have emphasized the first three dimensions namely access, availability, and utilization. Stability is often considered cross-cutting and therefore not well addressed as a stand-alone issue. Further, despite sociocultural perspective is well considered in the definition of food insecurity through food preferences, none of the four dimensions captures properly the cultural perspective. This cultural aspect is particularly important for some population groups in Canada such as Aboriginal people and immigrants who have some cultural relationship with foods [19]. In such situation, the issue of food insecurity is not only unavailability of or inaccessibility to foods due to lack of financial resources to procure them, but also culturally inappropriateness of available foods. Indeed, even if immigrants are not economically vulnerable, accessing home-country

foods of their choice is challenging, creating individual worries or concerns about feeding their family. This specific feeling of food insecurity uniquely experienced by immigrants and Aboriginal people might account for the comparative high level of food insecurity in these subgroups of Canadian populations. Unfortunately, it is not captured by existing measurement tools. Therefore, the concept of cultural food security that was proposed for Aboriginal people should be expanded to Canadian immigrants and other population worldwide who are experiencing significant challenges to access food of their cultural preference. For the conceptualization of an adequate and appropriate understanding of this cultural perspective of food insecurity, a fifth dimension namely cultural appropriateness should be considered in addition to availability, accessibility, utilization, and stability. The dimension of cultural appropriateness will focus on the ability of newcomers to reliably access to their preferred home-country foods in the host country. Appropriate tools and indicators should be developed to measure this newly proposed dimension of food security. Examples of indicators could include concern or worries about not having these foods, traditional knowledge of these foods, access to home-country foods, safety and nutritional values of these foods, and perceived cultural values of these foods.

Plenty has been written about the significance of ensuring food security for everyone, since food is deemed a basic human right and a crucial condition for a population to be well-nourished and in good physical and mental health. Yet, this objective has not been entirely achieved for all members of society. In Canada and other developed countries, it is understood that food insecurity is strongly linked with household income and is a reality for many socio-economically vulnerable Canadian households. Food insecurity is understood to be a dynamic process, which can range in severity from uncertainty concerning food supplies, to reductions in the quantity and quality of food intake.

### **3.2. The situation among Canadian immigrants**

In many developed countries, there are very high rates of stress, financial hardship, and food insecurity among refugees and other forced migrants. Unemployment, low income, and recent arrival are often associated with food insecurity among newcomers [20, 21]. Lack of savings or income places recent immigrant families at a higher risk of food insecurity in the first year following immigration, as many struggle to find a job and may face discrimination due to their race or/and their lack of permanent status [22]. In fact, more than half of all refugee families with children under 5 years reported food insecurity in some UK and US studies. In Toronto, Latin American immigrants were found to have a similar prevalence of food insecurity [23].

In 2011–2012, almost 1.1 million Canadian households experienced food insecurity and the prevalence of food insecurity was higher among recent immigrants (19.6%), compared with nonrecent immigrants (11.8%) and the Canadian-born population (12.4%). Many factors have been found to be linked to food insecurity among immigrants in Canadian cities. For instance, in Latin American immigrants in Toronto, three main correlates of food insecurity were found: social assistance as a main income, use of food banks, and limited literacy in English. More specifically, the prevalence of food insecurity increased as household income

decreased [24]. Households receiving provincial or municipal assistance as their main source of income are more vulnerable to food insecurity [23]. Furthermore, more recent immigrants (less than 1 year in Canada) experience higher levels of food insecurity compared with less recent immigrants (1–5 years in Canada; 84% vs. 33%). In addition, immigrants who are not fluent in English are more likely to experience food security [23].

All of these data suggests that if Canada wants a healthy and productive population, the issue of food insecurity needs to be addressed.

## 4. Food insecurity and health

Food is a fundamental determinant of health. The quantity and quality of the food we eat affects our health status, and our health is critical to productivity and prosperity.

Food insecurity in Canada is linked with higher rates of self-reported poor health and chronic health conditions, including depression, type 2 diabetes, heart disease, and greater stress [25]. Several studies have reported that food-insecure households are at risk of having monotonous and low-quality diets, reduced micronutrient intake, iron-deficiency anemia, and low intake of fruits, vegetables, and dairy products, particularly among women and youth [26]. A restricted budget, leading to the procurement of cheaper and more energy-dense foods is also a contributing factor to excessive energy intake and excessive weight gain [26]. Likewise, food insecurity is linked with poor diet and health among Canadian immigrants [27].

The following sections examine the relationships between food insecurity and nutritional intakes, health and well-being in Canada.

### 4.1. Food insecurity and nutritional intake

The first Canadian national study to assess the association between food insecurity and nutritional intakes was the 2004 Canadian Community Health Survey (CCHS) [28]. In this study, food-insecure women in the 19–30 and 31–50 age groups had lower intakes of dietary fiber. Moreover, food insecurity was linked with lower protein intakes across adult age and sex groups. Also, among males and females in the 19–30 age groups and among women in the 31–50 age groups, food insecurity was associated with lower consumption of fruit and vegetables. It was also found that food-insecure males and females over the age of 50 had lower intakes of milk than those who were food secure in the same age group. In all age groups, food insecurity was associated with inadequate intakes of magnesium and protein, and with folate, vitamin A, zinc, and vitamin C for certain groups [28]. Some groups of food-insecure children and teenagers in the 9–13 and 14–18 age groups had a high prevalence of inadequate intakes of protein, vitamin A, vitamin C, magnesium, and zinc, although results were not consistent across groups. Adolescents who were food insecure also had significantly lower intakes of fruit and vegetables than those who were food secure [28].

Furthermore, an analysis of the diets of 8938 youth aged 9–18 years from the 2004 CCHS suggested that low-income food-insecure girls had both lower milk consumption and vitamin

D intake and a higher intake of sweetened beverages (such as pop and juice drinks) than low-income food secure girls [26]. Additionally, a recent study assessed the relationship of food insecurity to iron deficiency and stature in a sample of 292 school-aged Inuit children from Nunavik (Northern Quebec), who were followed for 10 years [29]. Food-insecure children were slightly more likely to have iron-deficiency anemia (a condition in which blood lacks adequate healthy red blood cells due to insufficient iron) and had significantly lower mean hemoglobin levels (a blood indicator of anemia) than those who were food secure [29], again pointing to the negative impact of food insecurity on the quality of diet and health of individuals.

#### **4.2. Food insecurity and chronic health conditions**

Food insecurity has been linked with higher rates of self-reported poor health and chronic health conditions, including depression, hypertension, type 2 diabetes, and heart disease [25, 30–34]. For instance, findings from a recent study which explored the associations between food security status (high food security; marginal, moderate, or severe food insecurity), dietary behaviors and intake, and health-related outcomes (body weight, quality of life, mood, peer relationships, and externalizing problems) in 5853 Nova Scotian grade 5 students [25] suggested that students living in households experiencing moderate or severe food insecurity had poorer diet quality, higher body mass index, and poorer psychosocial outcomes than students living in households classified as high food secure or marginal food insecure [25].

Another study that assesses the association between household food insecurity and overweight among 10- to 11-year-old children living in Quebec [35] found that girls who lived in food-insecure households were almost five times more likely to be overweight in comparison to girls who lived in food secure households. This may seem surprising, as one would think that individuals who are experiencing food insecurity would have less to eat and would consequently have less chance of being overweight. However, the quality of food is affected before the quantity, meaning those affected by food insecurity tend to consume more high-energy foods containing less nutrients [28]. It is well known that obesity increases the risk of serious health conditions such as type 2 diabetes [36], hypertension and cardiovascular disease [37], fatty liver disease [38], and some types of cancers [39]. Among the many factors that contribute to the increase in rate of obesity among Canadian immigrants is lifestyle nutrition transition, which is thought to be mediated by *acculturation* [40–42]. Since some immigrant groups who are already struggling with high unemployment, poverty, and mental distress are more likely to develop onset of these conditions at a younger age and has a lower BMI [43–46], it is important to understand the dynamics between immigration, food insecurity, and the food/diet changes upon settlement in Canada in order to develop tailored actions that will limit the onset of these poor health conditions in food-insecure immigrant households.

### **5. Immigration, acculturation, and food insecurity**

Changes in dietary habits related to immigration are often referred as *dietary acculturation*, which is the process by which immigrants adopt the dietary practices of the host country.

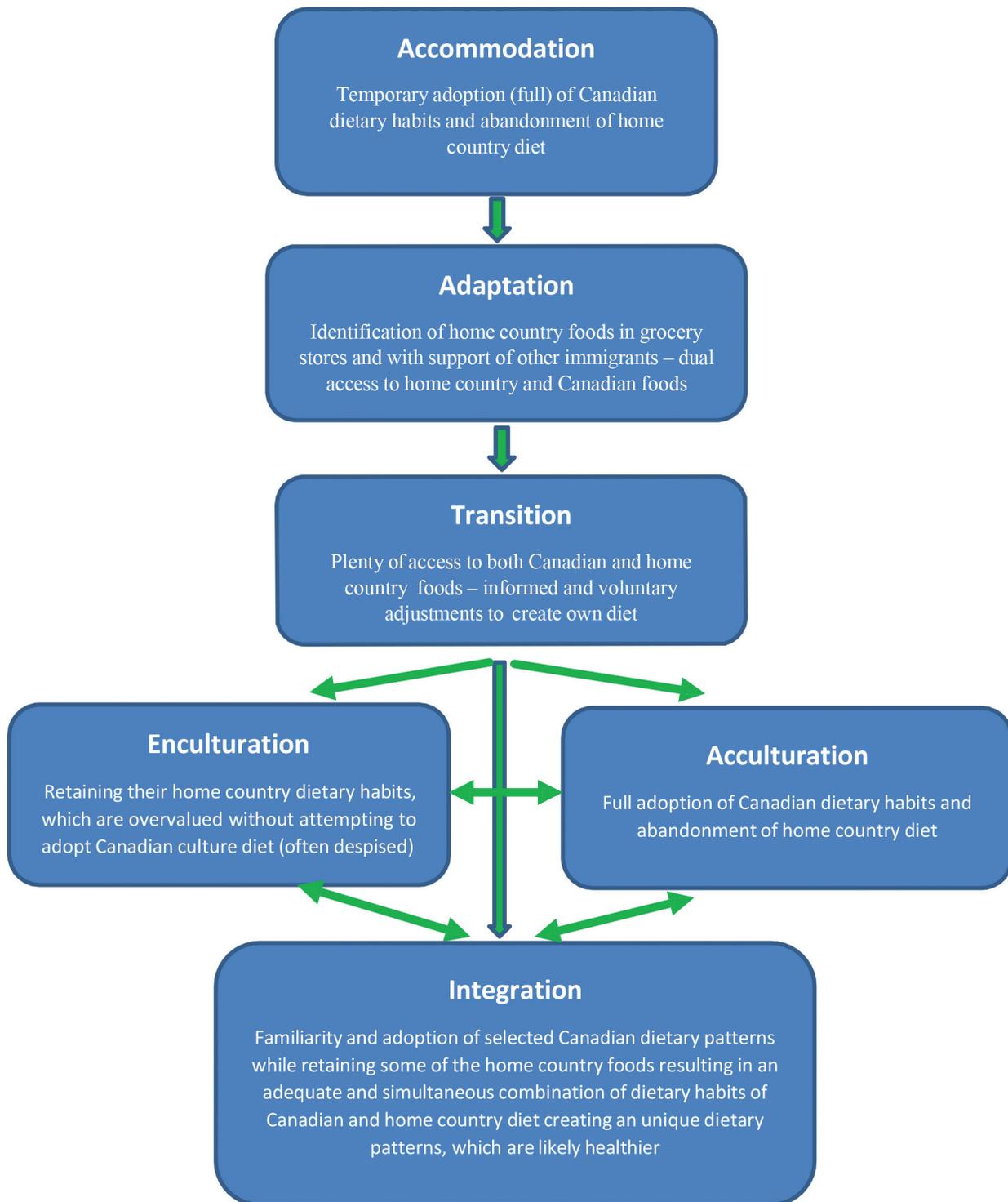
There are various scales to measure acculturation, but the most commonly used by researchers in Canadian context is duration of stay in the host country [47]. Other measures, such as place of birth, country of origin, age at arrival in Canada, and language use or language proficiency are also commonly used [47]. These proxy measures consider acculturation as linear and unidirectional process, which excludes the possibility of multiculturalism and interaction between the host country and native country cultures. However, acculturation is a multidimensional and multidirectional phenomenon that takes different paths [48, 49]. Investigating francophone immigrants' experiences with food insecurity in Montreal [48], identified four models in the dietary acculturation process: assimilation followed by an adaptation phase, ethnocentrism, and integration.

The accommodation phase is a temporary situation experienced by an immigrant in the first 1–3 months upon arrival and is characterized by a full adoption of the host-country dietary habits and a temporary abandonment of home-country dietary habits [48]. Since s/he has limited knowledge of the host country context, lacks cooking skills, and does not have access to the native country foods and cooking equipment, the newcomer contents her/himself with whatever foods s/he finds. Therefore, the situation is more or less a temporary reasonable accommodation to a survival situation rather than a voluntary adoption (assimilation) of new habits. As the newcomer identifies the market places and groceries and starts interacting with other immigrants, s/he gradually accesses home-country foods which give him or her some time to adjust to the new context (adaptation). The dual access to both local and home-country foods offers an opportunity to create unique dietary patterns and to transition to the final dietary patterns of the newcomer.

When given the opportunity, immigrants attempt at first to reproduce home-country diet which is believed to be healthier [48]. In the long term, the home-country foods are gradually mainstreamed in the host-country diet, resulting in dietary patterns that balance foods from both home- and host-country culture. At this stage called integration, while enjoying the taste and social meanings of their home-country foods, immigrants become more familiar with and adopt host-country foods, creating a dietary mix which increases the diversity of the household diet. The attempt to maintain home-country diet is challenged by many factors including unavailability and affordability of home-country foods; lack of home-country ingredients and cooking equipment; time constraints for home-country food preparation; unavailability of nutrition value of traditional foods; the influence of neighborhood; etc. [47]. In some situations, where the newcomer has plenty of access to home-country foods, he can overvalue these foods while rejecting and/or despising the host-country foods, resulting in an ethnocentrism which can be temporary or permanent. This situation, also referred to as dietary enculturation, is more common in immigrants who arrive in Canada at older age and is less frequent in children who do not have enough dietary ties with home country and have little decision power on household diet.

Finally, there are situations where for different reasons, the immigrant decides to abandon home-country diet and fully adopts Canadian dietary patterns. This process is referred as dietary acculturation [47, 48] as the newcomer renounces his cultural dietary identity. Drivers of dietary acculturation include factors impeding home food consumption as discussed

above, pre-immigration history, unfamiliarity with Canadian foods, grocery procurement patterns and cooking techniques, unawareness of Canadian nutrition discourse, communication barriers, social isolation, and financial insecurity. **Figure 1** summarizes the modified dietary trajectories of Canadian immigrants.



**Figure 1.** Dietary transition trajectories of Canadian immigrants.

Pillarella [48] reported that the dynamics leading to changes in dietary habits after migrating to another country are inevitable. However, the impact of these changes depends on the path and the degree to which immigrants maintain their former cultural identity as well as the extent to which they adopt the cultural practices of their new homeland. The potential conflict for immigrants to maintain their cultural diet while simultaneously adapting the dietary norms of their new country creates some stress and pressure to obtain home-country foods of their choice and thus increases the level of worries about not having enough foods of their cultural preferences [47, 50]. This type of food insecurity uniquely experienced by immigrants that is not caused by unavailability or inaccessibility of foods due to lack of resources to procure foods is often not captured by existing measurement tools. A similar observation was made for Canadian Aboriginal people by Power [19], who argued that there is a cultural consideration for Aboriginal people way of relating to their traditional foods, which impacts the four pillars of food security: access, availability, supply, and utilization. She therefore proposed the concept of cultural food insecurity to emphasize the importance of cultural inappropriateness for Aboriginal people of foods available in the Canadian market system [19].

## 6. Immigration and nutrient intake in Canada

A few studies have looked at immigrants' intake of nutrients compared to that of the nonimmigrant Canadian population. Overall, immigrants were at higher risk of insufficient calcium, iron, and protein intake [51]. This is especially true for those of Asian descent. Also, a long exposure to the Canadian culture was linked with an increased intake of fat and sodium by newcomers [50, 52]. However, some studies suggest the opposite. For example, one study involving older adult immigrants in London, Ontario found that keeping a traditional diet and consuming ethnic foods may be associated with an increased intake of salt, which was found to be two to four times the daily adequate intake for some individuals [53].

Nevertheless, most studies tend to show that immigrants' traditional diet, which is usually low in processed foods, is healthier than that of the typical Canadian diet [47]. This is especially true for immigrants of African and Haitian origins [54]. For example, a Canadian study found that French-speaking Africans living in Montreal had a tendency to maintain their home country's traditional diet, which had a significantly higher nutritional quality than the modern Canadian diet [54]. To determine the nutritional quality of the different dietary patterns, researchers used a variety of diet quality indexes (such as the "micronutrient adequacy" score [55], the "healthfulness" score [56], and the Healthy Eating Index [57]). A diet quality index is basically a measure, on a numeric scale, of the overall acceptability of food intake of an individual or population compared to dietary guidelines [58]. In the group of Africans in Montreal, participants who consumed a modern (or Western) diet had more than twice the risk of being resistant to insulin, which is a risk factor of type 2 diabetes, than those who consumed a traditional diet. Also, in another study, Punjabi women living in Toronto, Canada who kept consuming a traditional diet were described as having a healthier diet compared to a typical Western diet [59].

It is important to note that healthy dietary patterns can only be followed if food is available, accessible, and desirable [54]. They are peripheral if people are in a state of chronic food insecurity.

## 7. Implications for policies and programs

Immigrants are vulnerable to food insecurity and the latter negatively impacts their health, therefore it is important to consider implications for community policies and programs. Data suggest the need to design community programs to raise awareness of the issue of food insecurity among this population. The alarming situation also calls for mainstreaming food security initiatives in development policies as well as strategy and programs aimed at a better integration of newcomers to Canada.

There are numerous policies that influence the financial resources of households, which in turn influence their food security status. In Canada, certain examples of relevant policies include those impacting social assistance rates, minimum wage, employment standards, affordable housing, child benefits, and affordable childcare. Policies and programs that specifically target community-level food insecurity include community kitchens, food skill development workshops, self-provisioning activities such as community gardens, and alternative food-distribution systems, as well as farmers' market options. Combating food insecurity through charitable food banks is another popular strategy in Canada. Food banks have seen a 23% rise in use between 2008 and 2013 across the country and a 19.6% rise in the number of people assisted in Ontario during the same period [60]. School- and community-based programs such as school breakfast and lunches have also been implemented in many areas. Unfortunately, school setting strategies are often short lived, as students will not have access to the programs in the summer and during holidays. Finally, federal policy responses such as increasing income from National Child Benefit payments and social assistance and indexing them to inflation can be greatly beneficial for low-income families, including many immigrant families [60].

On another note, we also suggest providing access to jobs that do not require speaking the English language but to employment opportunities where French is spoken. This would improve the financial situation of French-speaking immigrants to Canada and reduce their risk of food insecurity. Further, providing affordable and subsidized childcare, flexible working hours, and an adequate number of sick days will likely contribute to reduce employment barriers among low-income families, especially those receiving social assistance. To illustrate, if parents or caregivers cannot take the day off work to take care of their sick children, these children will have to be placed in daycare, which is often expensive for families on social assistance. Moreover, we highlight the need for food insecurity to be addressed in immigrant integration strategies (including evaluation and recognition of education in other countries) in order to improve the financial power of recent immigrants to acquire adequate, nutritious, and culturally acceptable foods.

Food insecurity is persistent in many Canadian households and disproportionately affects newcomers. Food insecurity poses a serious risk to the nutritional health and well-being of both adults and children. Without government policy involvements, it is likely that food-based responses

such as food banks will continue to try to fill the policy gap, even though evidence shows communities are unable to successfully respond to problems of household food insecurity.

## 8. Conclusion

This chapter looked at the food-security of immigrants from a Canadian perspective. National statistics and additional literature demonstrate that Canadian immigrants are experiencing high levels of food insecurity as compared to Canadian-born populations. There was evidence of a link between socio-economic status, food insecurity, diet quality, and health and this relationship mediates the vulnerability level of newcomers to the negative impact of food insecurity.

As Canada is a popular destination for immigrants and integration of newcomers is an important strategy for the country's demographic growth and economic development, understanding and properly addressing the factors associated with food insecurity among Canadian immigrants is crucial, but requires an adequate understanding of the immediate and root causes of the problem. This chapter outlined some evidence that suggest that for Canadian immigrant populations there is a need to consider a cultural perspective in food insecurity in addition to the traditional individual, household, and community levels and the development of measurement tools to capture this cultural dimension. From a programmatic perspective, the concept of cultural food insecurity is proposed, which encompasses a fifth pillar related to cultural appropriateness in addition to the four usual dimensions of availability, accessibility, utilization, and stability. Future research should aim at confirming the relevance of this cultural perspective as a fifth dimension of food insecurity, its potential contribution to the high rate of food insecurity in Canadian immigrants and developing measurement tools for its assessment.

Since strategies to improve food security of these populations are essential to improving their overall health and long-term wellbeing, future government and community-driven programs and policies targeting immigrants should take into account this cultural perspective of food access and preference. In the meantime, given the high level of food insecurity, food security interventions should be considered as upstream interventions alongside other measures for welcoming and integrating immigrants in order for them to successfully contribute to the Canadian social and economic development.

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