

Review

Eating in the City: A Review of the Literature on Food Insecurity and Indigenous People Living in Urban Spaces

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Abstract: Indigenous people often occupy different overlapping or co-existing food environments that include market-based foods, land and water based foods, and combinations of the two. Studying these food environments is complicated by the cultural and geographic diversity of Indigenous people and the effects of colonialism, land dispossession, relocation and forced settlement on static reserves, and increasing migration to urban areas. We conducted a scoping study of food insecurity and Indigenous peoples living in urban spaces in Canada, the United States, and Australia. The 16 studies reviewed showed that food insecurity among urban Indigenous populations is an issue in all three nations. Findings highlight both the variety of experiences of urban Indigenous peoples within and across the three nations, and the commonalities of these experiences.

Keywords: food insecurity; Indigenous people; Canada; United States; Australia

1. Introduction

Indigenous food security in remote, rural, and on-reserve populations has been well studied in Canada, the United States, and Australia [1–7]. Studies identify colonialism [8]; barriers to accessing traditional foods (e.g., [1,2,9,10]); dietary transition (e.g., [11,12]); diet and health (e.g., [13,14]); food and livelihood change (e.g., [15]); and the costs of commercial or market based foods (e.g., [16,17]) as the major causes of food insecurity. In these three nations, a large percentage of Indigenous peoples live in urban centres: 53% in Canada [18]; 71% in the United States [19], and 57% in cities and inner regional areas of Australia [20]. Yet, less attention has been paid to food security among urban Indigenous people, even though some of the issues facing urban Indigenous populations are unique from those confronting rural and reserve Indigenous populations. According to Hill and Cooke [21], urban Indigenous populations differ from rural and remote populations because they tend to be more culturally diverse; the community consists of both individuals new to urban environments and those who have lived in an urban location for years or generations; and while some individuals have close connections to their home community (and may migrate back and forth), others have stronger ties to an urban social-network. This article discusses the results of a scoping study to assess the breadth and depth of knowledge on food insecurity for Indigenous people living in urban spaces in order to identify gaps in the literature and potential avenues for further inquiry.

Although Indigenous peoples in Canada, the United States, and Australia possess distinct and unique histories, circumstances, beliefs, and diets, there are some common characteristics that allow us to compare the experiences of Indigenous peoples living in urban spaces. As noted by

Cooke *et al.* [22], Canada, the United States, and Australia are industrialized and developed nations that have comparable colonial origins and are often used “... as natural comparators in terms of Indigenous well-being...” because “these countries consistently place near the top of the United Nations Development Programme’s *Human Development Index (HDI)* rankings, yet all have minority Indigenous populations with much poorer health and social conditions than their non-Indigenous compatriots”. Various studies have compared some or all of these nations when examining Indigenous issues, including: social determinants of health [23]; rural food security [24]; culturally-competent health care practices [25]; lack of Indigenous participation in health research [26]; and disproportionate rates of urban homelessness for Indigenous peoples [27], yet there has not been a review of urban Indigenous food security that compares Indigenous experiences in Canada, the United States, and Australia. The Indigenous populations living in these three settler states face many of the same structural social, economic, and political inequalities that make them disproportionately vulnerable to food insecurity.

The term food insecurity or food insecure has, over the last several decades, come to be one of the most widely used assessment tools to measure “food deprivation”, broadly defined. Food insecurity is the lack of access to healthy affordable food. The use of the term food insecure is purposeful and moves away from the binary and false notion that people are either hungry or not hungry. It is also a term that incorporates the long and short-term strategies people (households and communities) draw on to avoid hunger or food deprivation. In this review, we use the definition adopted by the United Nations, World Health Organization, and 183 nations: food security exists “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” [28].

We further complicate this definition by arguing it is necessary to incorporate race, ethnicity, and culture when exploring food security. Culture is a key determinant of Indigenous diets [29–32], including the types of food and the practices of procurement, preparation, sharing and eating. For instance, a study of the role of traditional foods in the Wapekeka and Kasabonika First Nations found that “wild food harvesting remains an important feature of community life”, is “incorporated into family social practices”, and the preparation of game is an essential moment of intergenerational teaching and sharing [3]. In Australia, Bussey *et al.* [24] found that traditional food (also called “bush tucker” in Australia and “country food” in Canada) plays a significant role in ensuring food security for remote and rural Indigenous peoples, and a recent review of Indigenous food security in the United States concluded that “access to healthy and/or traditional foods as the most significant barrier to Native American food security” [33] (p. 690). Thus, traditional food including food sharing, food skills, and preferences, is a key component of cultural food security for Indigenous peoples.

Focusing on urban environments specifically acknowledges that place matters when understanding food security. The influence that the “food environment” has on physical and dietary activity has been well documented [34]. According to a recent report [35] released by Health Canada, the food environment includes a wide range of factors such as: geographic food access (where and what kinds of stores are available in proximity to you); food availability (the kinds of foods that are obtainable in someone’s community); food affordability (refers to the cost of food in a particular based on the standardized pricing tool for a household); and food quality (refers to subjective assessments of food quality and the shopping experience). Urban Indigenous people face different challenges and have food environments that are unique to their rural, remote, and on-reserve counterparts, and currently the literature does not reflect the experiences of urban Indigenous populations.

Rates of Food Insecurity among Indigenous Populations

In Canada, a report on Household Food Insecurity in 2012 revealed that, in addition to an array of other characteristics like income, people who lived in urban areas had higher rates of food insecurity than those living in rural areas [36]. In countries like Canada and the United States, urban/rural spaces are further divided by reserves and reservations, respectively, and in Australia into reserves and stations. Studies show that Indigenous people who live on reserves face disproportionately high

rates of food insecurity [1,37]. A report recently released by the First Nations Food Nutrition and Environment Study [37] looked at seven larger First Nations communities in Northern Ontario and reported 52% of households as food insecure. Rates of food insecurity in some First Nations households in Northern Ontario households are even higher. For example, a discrete study of food insecurity in Fort Albany First Nation (a fly in community located along west coast of James Bay) reported that 70% of households were food insecure [1]. While slightly lower, Indigenous people in metropolitan areas in Canada face similar challenges; in 2012, 28% of off-reserve Indigenous households compared to 13% of non-Indigenous households were food insecure [36]. Between 1961 and 2006 the Indigenous population living in urban areas in Canada increased from 13% of the total Indigenous population to 53% [38]. The most recent numbers show that, in Ontario, 63% of Indigenous people who are federally registered as status Indians live off reserve and reside in metropolitan areas [39].

For the United States food security statistics specifically for Native Americans were difficult to find. For example, the United States has conducted few studies that focus explicitly on Native Americans but significant data exists on the relationship between food security and space for African Americans and Latinos/Hispanics [40–46]. In a 2013 study that looked at counties with high populations of visible minorities, they found that Native American food insecurity ranged anywhere from 20% to 28%, while the general level of food insecurity for the entire United States is 14% [47]. It is unclear whether or not this is a true reflection of food insecurity for urban dwelling Native Americans. This represents a huge gap in the literature. Between 1960 and 1970 the population of Native Americans living in cities and towns doubled, expedited by government relocation programs and the Termination Act of 1953 [48].

Australia is largely regarded as a food-secure nation with only about 5%–8% of the general population suffering from food insecurity [49]. However, those numbers change dramatically for the Indigenous population. Like Canada, the majority of Indigenous people in Australia, nearly 58%, live in urban areas. Food insecurity among Indigenous people living in the capital cities of Australia is 32%, in regional areas it is 43%, and in remote areas it is 25% [50]. Thus, for Indigenous people in Australia the rate of food insecurity on average is four to five times higher than the non-Indigenous population [50]. Like Canada and the United States, in the post WWII period, Indigenous people in Australia increasingly migrated to urban areas through forced government relocations or in the search for employment, education, and better access to health care and social services.

2. Methodology

The scoping review (as defined by the Canadian Institutes of Health Research—CIHR) was conducted of online peer-reviewed journal articles. A scoping review was chosen for this topic, because both “the potentially relevant literature is thought to be especially vast and diverse (varying by method, theoretical orientation or discipline)” and “there is suspicion that not enough literature exists” [51]. The methods for the scoping review were adapted from the first five stages of the scoping framework outlined by Arksey and O’Malley [52] and refined by Levac *et al.* [53], omitting the sixth optional stage. After determining the research question—What is the breadth and depth of knowledge on urban Indigenous food security in the chosen countries?—We conducted a search that included peer-reviewed journal articles from 1997 to August 2015. Following the protocol used by Bussey [24], articles prior to 1997 were excluded, as the internationally agreed upon definition for food security noted above was established in the fall of 1996.

The list of databases searched and search terms are included in Figure 1. Keywords and combinations of keywords in four different areas—food security/urban/Indigenous/country location—were used. Our initial searches included New Zealand, as we originally had intended to include the nation in the review. However, we chose to exclude New Zealand from the review after no articles were found that matched our search criteria. In the case of the United States, where the initial search returned few articles, a search of all tribes with a population over 100,000 [19] was conducted, with the specific tribe name searched along with the search term “food”, in an attempt to capture more articles. A hand search was conducted of relevant non-indexed journals, individual authors with

prominent work in this field (see Figure 1), and from the reference lists of articles that were chosen. All articles were initially screened by title and abstract. Articles that were not excluded based on the initial screen were selected for full article review, where they were examined for adherence to the specific inclusion and exclusion criteria.

Food Security	Urban	Indigenous	Country	Inclusion Criteria	Exclusion Criteria
“food security” “food insecurity” hunger “traditional food*” “traditional diet” “bush food*” “country food*” food	urban city cities metropol* town	Aborigin* Indigen* “First Nation” Inuit “Alaskan Indian” Métis Apache Cherokee Chippewa Choctaw “Mexican American Indian” “Native American” “American Indian” Maori Navajo Sioux	Canada United States Australia	-Location was urban -Within one (or more) of the 3 countries -Minimum one paragraph on urban Indigenous Food Security	-Only statistical information (chart or graph) -Studies on*: - diabetes - obesity - health promotion - tobacco - nutrition *unless there was a focus on food security as it relates to these topics. -Two articles from the same study (most relevant one was chosen) -Regional and national level studies that have not been published in peer-reviewed journals -Studies that did not distinguish urban within off-reserve data sources
Databases Searched					
Web of Science ERIC Social Sciences Abstracts CINAHL PubMed					
Hand Search of Journals, Authors, and Reference lists					
<i>Journals:</i> American Indian Culture and Research Journal; Australian Community Psychology; Australian Indigenous Health Bulletin; Health Promotion Journal of Australia; Pimatisiwin <i>Authors:</i> Karen Adams; Jaime Cidro; Bethany Elliott; Wendy Foley; James Ford; Philip A. Loring <i>Reference lists</i> of articles meeting the inclusion criteria and passing the exclusion criteria					

Figure 1. Search protocol and inclusion and exclusion criteria.

We borrow John Weeks’ definition of urban to mean “a placed-based characteristic that incorporates elements of population density, social and economic organization, and the transformation of the natural environment into a built environment” [54] (p. 34).

While no universal definition of Indigenous exists, we draw on the United Nations guidelines [55], to include peoples with the following traits: those who self-identify as Indigenous and are accepted by others as belonging to a community; have a historical continuity with a pre-colonial society; have distinct social, economic, or political system; have distinct language, culture, and beliefs. Although not explicitly stated in the United Nations guidelines, it is generally recognized that traditional foods and diet are important parts of Indigenous culture and beliefs [31,32,56–58].

2.1. Inclusion/Exclusion Criteria

A full list of inclusion and exclusion criteria are summarized in Figure 1. Articles that dealt with urban Indigenous populations in Canada, the United States, and Australia were included in the search. The article had to have at least one paragraph that discussed an aspect of urban Indigenous food security and included some primary research. Since the definition of urban is not standardized across the three countries under review, any article that self-identified as urban (including city, metropolitan, suburban) or made mention of a specific urban location (e.g., Vancouver, Fairbanks, Melbourne) was included.

Articles that focused on rural, remote, or on-reserve locations exclusively were excluded, as was work that looked at off-reserve, but not specifically urban, populations. Work that took a regional or national level approach to Indigenous food security was excluded, unless there was at least one paragraph discussing the urban context. Likewise, work that focused on broader urban food security

(including statistics that had a category for Indigenous people) was excluded, unless it included at least one paragraph on Indigenous food security. Studies that were focused solely on diabetes, obesity, tobacco, health promotion, nutrient uptake, or housing were also excluded from the review. Work that was framed within the discussion of one of the above noted issues but with a focus on an aspect of food security was included.

2.2. Content Analysis and Synthesis

From the articles that met the inclusion criteria, qualitative content analysis was conducted. The range of methodologies found (including ethnographic, mixed methods, and quantitative surveys) precluded any systematic meta-synthesis. Instead, a narrative synthesis was conducted [59], following an iterative process. The articles were each read in their entirety, and topics that related to urban food security of Indigenous populations were identified in each article and coded manually. A second reading of each article was conducted once each had been through an initial coding, both to extract additional data and to group topics into major themes. Topics were then synthesized and discussed in relation to each other—highlighting the similarities and differences across findings, and identifying the gaps in knowledge.

3. Results

The literature search resulted in 16 articles, with the following geographic focus: nine in Canada, five in Australia, and two in the United States. This was lower than the initial projected number of articles, and reflects the paucity of literature on food security with Indigenous populations living in urban locations across these three countries. Thirteen articles are dated from 2010 on, and four of these were published in 2014 and 2015, indicating that urban Indigenous food security is becoming increasingly recognized as a concern. Table 1 outlines, for each article, the authors; country location; methodology; and main purpose of the study. Of the articles, all but two used some qualitative methods consisting of: interviews ($n = 7$), observation ($n = 3$), focus groups ($n = 2$), photovoice ($n = 2$), and story/dialogue ($n = 1$). Three articles used surveys and quantitative analysis.

Table 1. Summary of articles included in the review.

Author/Date	Country	Purpose	Methods
Abbott, 2010 [60]	Australia	"... presents findings from an evaluation of the 'cooking course for Indigenous people at risk for diabetes' ... as to the factors that impacted on participants applying the knowledge and skills acquired at the course to their daily lives." (p. 34) *	Semi-structured interviews
Adams <i>et al.</i> , 2013 [61]	Australia	"... to work collaboratively with an urban Aboriginal community to understand the meanings of food and food insecurity and use action research to strengthen responses to this issue." (p. 498)	Photovoice
Brown <i>et al.</i> , 2008 [62]	Canada	"... to explore the eating experiences and use of traditional foods of Aboriginal adults who had moved to an urban centre from a reserve community." (p. 2)	Questionnaires Focus groups (using concept mapping)
Cidro <i>et al.</i> , 2015 [63]	Canada	"... discusses the results of preliminary research conducted which explored the experiences and meanings associated with Indigenous cultural food for Indigenous people living in urban communities." (p. 5)	Focus groups and individual interviews
Cuesta-Briand <i>et al.</i> , 2012 [64]	Australia	"... focuses on food security issues experienced by low-income earners living with type 2 diabetes in Perth, Western Australia." (p. 683) **	Focus groups In-depth interviews

Table 1. Cont.

Author/Date	Country	Purpose	Methods
Dillinger <i>et al.</i> , 1999 [65]	United States	"... examines the roles of supplemental food programs in two Native American populations of northern California, one rural and the other urban." (p. 174)	Survey
Elliott <i>et al.</i> , 2012 [66]	Canada	"... to assess the challenges and solutions to accessing traditional Aboriginal foods in the urban context of Vancouver, BC." (p. 2)	Modified story/dialogue
Fazzino and Loring, 2009 [67]	United States	"... examine the so-called 'food crisis' in rural and urban Alaska ... as a process of the cumulative effects of increasing prices of fuel, climate change and its impacts on peoples' ability to harvest wild, 'country' foods, increasing prices of store-bought foods (esp. in rural Alaska), and issues of urban food assistance." (p. 153)	News reports Semi-structured interviews
Foley, 2005 [68]	Australia	"describe urban Indigenous food practices two centuries after colonization." (p. 25) *	Ethnography (observation)
Foley, 2010 [69]	Australia	"... reports on ethnographic study of urban Aboriginal family food and implications for nutrition promotion." (p. 268) *	In-depth interviews Participant observation
Ford <i>et al.</i> , 2012 [70]	Canada	"Reports on a baseline study conducted with users of community food programs in Iqaluit, Nunavut, to identify and characterize utilization and document their food security experience." (p. 464)	Survey Open-ended interviews Key informant interviews
Kerpan <i>et al.</i> , 2015 [71]	Canada	"... purpose of this qualitative study was to examine the determinants of diet for urban Aboriginal youth with specific emphasis on culture." (p. 393)	Participatory methods, with individual interviews, participant observation and informal conversations
Lardeau <i>et al.</i> , 2011 [72]	Canada	"this article describes the results of the application of Photovoice research methodology among users of community food programs in Iqaluit, Nunavut, to develop a baseline understanding of those factors that affect their own food security status at an individual level." (p. 3)	Photovoice
Mundel and Chapman, 2010 [73]	Canada	"... case study of a health promotion project, the Urban Aboriginal Community Kitchen Garden Project in Vancouver, Canada, which, guided by the teachings of the Medicine Wheel, aims to provide culturally appropriate health promotion" (p. 166)	Participant observation Interviews
Tam <i>et al.</i> , 2014 [74]	Canada	"... a closer examination of coping strategies among food insecure households in urban and rural settings in Canada. This includes a comparative analysis of the role of social networks, institutional resources, and diet modifications as strategies to compensate for parent-reported child hunger using national sources of data" (p. 463) **	Survey
Zurba <i>et al.</i> , 2012 [75]	Canada	"... presents the initial outcomes of our investigation into the deeper sociocultural issues relating to food security (for a healing group that included Métis and Aboriginal people living in the Winnipeg North End)."	Community Food Security Assessment, consisting of focus groups and key informant interviews

*: Purpose of the study was not directly focused on food security; **: Purpose did not focus exclusively on Indigenous people.

4. Findings from the Literature

The literature review clearly showed that, in all three nations, food security is generally a concern for urban Indigenous populations. Food security, according to the findings, is a complex issue among urban Indigenous people involving a complicated web of economic, social, cultural, and health considerations. The findings highlight both the variety of experiences of urban Indigenous peoples within and across the three nations, and the commonalities of their experiences. Table 2 outlines the five main themes and related findings from each article.

Table 2. Articles cited by theme.

Theme	Articles Cited
Affordability of and Access to Store Foods	Abbott <i>et al.</i> , 2010 Adams <i>et al.</i> , 2012 Brown <i>et al.</i> , 2008 Cuesta-Briand <i>et al.</i> , 2013 Dillinger <i>et al.</i> , 1999 Fazzino and Loring, 2009 Foley, 2005 Foley, 2010 Kerpan <i>et al.</i> , 2015 Lardeau <i>et al.</i> , 2013
Dietary Change and Store Foods	Abbott <i>et al.</i> , 2010 Adams <i>et al.</i> , 2012 Brown <i>et al.</i> , 2008 Fazzino and Loring, 2009 Foley, 2005 Foley, 2010 Tam <i>et al.</i> , 2014 Zurba <i>et al.</i> , 2012
Traditional Foods	Adams <i>et al.</i> , 2012 Brown <i>et al.</i> , 2008 Cidro <i>et al.</i> , 2015 Elliott <i>et al.</i> , 2012 Fazzino and Loring, 2009 Foley, 2005 Ford <i>et al.</i> , 2012 Kerpan <i>et al.</i> , 2015 Lardeau <i>et al.</i> , 2013
Food Sharing, Communal Preparation and Eating	Brown <i>et al.</i> , 2008 Cidro <i>et al.</i> , 2015 Elliott <i>et al.</i> , 2012 Foley, 2005 Foley, 2010 Ford <i>et al.</i> , 2012 Kerpan <i>et al.</i> , 2015 Lardeau <i>et al.</i> , 2011 Tam <i>et al.</i> , 2014
Food Programming	Abbott <i>et al.</i> , 2010 Adams <i>et al.</i> , 2012 Cidro <i>et al.</i> , 2015 Dillinger <i>et al.</i> , 1999 Elliott <i>et al.</i> , 2012 Foley, 2010 Ford <i>et al.</i> , 2012 Lardeau <i>et al.</i> , 2011 Mundel and Chapman, 2012 Tam <i>et al.</i> , 2014

4.1. Affordability of and Access to Store Foods

A major focus of many of the papers was the affordability of and access to market based foods—foods that are sold in stores such as supermarkets or small grocers and are a part of the industrial food system. In all three countries, for those Indigenous people operating under budget constraints, healthy foods from supermarkets were often unaffordable [60,61,64,65,68,71]. In the Australian context, Foley [68] found that despite the breadth of choices in the food system, the cost of healthy food remained a barrier for many urban Indigenous households. The cost of food was the key determinant of food purchases [60,64], and choices were made based on what was on sale at the time [69]. People were reluctant to experiment with new and different foods because they did not want to risk wasting food if it was going to be rejected by household members [69]. In particular, there was concern about the possibility of food wastage by children who rejected new foods [61].

In Canada and the United States, the concerns regarding the affordability of healthy foods depended on the perspective and the location of the study. From the perspective of Indigenous people moving from reserves to urban centres, Brown *et al.* [50] found that Indigenous people remarked on the lower cost of healthy foods, including fruits, vegetables, and fresh milk. In a study in Alaska, United States, Fazzino and Loring [67] noted that rural residents came to urban centres specifically to purchase store foods, often in bulk, as they were less expensive than in rural and remote locations. Similarly, a rural-urban comparison in California by Dillinger *et al.* [65] showed that although prices were a concern in urban Sacramento, rural residents faced higher prices for store-bought food. In the Canadian Arctic city of Iqaluit, Nunavut, Lardeau *et al.* [72] found that high prices for market based foods in store, combined with limited incomes and unemployment, led to extremely high rates of food insecurity.

The need to balance food purchasing with other financial obligations was also a common issue. For example, unexpected fluctuations in the cost of living such as high winter hydro bills, reduced the amount of income available for food purchases. In Australia, Foley [68] shows that among some urban Indigenous people “balancing food costs with other financial commitments are persistent themes” (p. 36). Foley found that people often used food as part of a larger strategy to negotiate monthly household costs. For instance, food may be prioritized over needed medication but not over rent, and people tended to purchase food that was filling rather than nutritious [68]. In Canada, Kerpan *et al.* [71] had similar findings when speaking with urban Indigenous youth, who stated income was the greatest barrier to healthy food purchasing.

Related to the affordability of market-based food, was the issue of access. Again, this depended on perspective and location. For recent arrivals from reserves, shopping in the urban centre was considered more convenient; stores were open longer hours and with more locations to choose from than on-reserve [62]. Cuesta-Briand *et al.* [64] in Perth, Australia, noted that many Indigenous health clinic clients had to rely on others for food provisions because of lack of access to a car, no driver’s license, or mobility issues. Kerpan *et al.* [71] noted that for youth living in low-income neighborhoods, a lack of a grocery store nearby meant that youth had to either walk or take public transit to supermarkets, or instead purchased fast-food and processed food from local fast-food outlets and convenience stores.

4.2. Dietary Change and Store Foods

Dietary change among urban Indigenous people was examined from various perspectives, including short-term change as people migrated between urban and rural spaces [67], more stable change as people moved from reserve to the city [62], and historical changes over time [68]. Indigenous people with links to both urban and rural/remote/reserve environments discussed having a different diet when residing in the city (called “city foods” by one research participant) *vs.* when they were in their home communities (“good foods”) [67]. Brown *et al.* [62] found that a move to an urban centre from the reserve led to dietary modifications that included the greater consumption of fast foods, fruits, and vegetables, and a decline in the consumption of traditional or wild foods.

Dietary choices around fast food were linked to food security in a number of ways. One dietary change that was widely discussed was the prevalence of fast foods in urban Indigenous diets. Definitions of what constituted fast foods were not disclosed in most studies and therefore may vary across studies. Fast foods were eaten because they were considered to be more affordable and accessible than other healthier alternatives [60,61,68,71], or were easier to access in low-income neighbourhoods [71]. Brown *et al.* [62] noted that for Indigenous people moving from reserves to urban centres, the combination of greater availability of fast foods and a faster paced life resulted in less time to cook, which led to the greater consumption of fast food. However, some people viewed this shift as positive vis-à-vis food access on-reserve, where food was less available and affordable. One study discussed the importance of the link between unhealthy food choices and emotional ties to certain foods, and family belief systems around food for those who are food insecure [75].

Tam and colleagues [74] found that a decrease in food intake, including skipping meals, was an informal coping mechanism among food insecure urban Indigenous parents and children. Food reduction strategies to cope with food insecurity and hunger were higher among those living in urban areas than rural and proposed explanations for this included differences in social support networks and barriers to food access such as proximity to food outlets [74]. Zurba *et al.* [75] found that all of the participants in their study were concerned with drug and alcohol addiction for youth in their community, and the relationship between addiction and healthy eating.

From a historical perspective, the theft of land, conditions of poverty, government policy, and food rationing have shaped current food practices and preferences [60,68]. Foley [68] provided insight into current urban Indigenous food culture in Australia using a post-colonial lens. She states that current foodways among Indigenous people combined those foods considered “traditional colonial” foods and colonial traditions (Sunday dinner together) with recipes handed down from their mothers and grandmothers. Meals such as meat and potatoes, squash, and roasts have become “traditional” foods among many Indigenous people in Australia, despite the colonial origins of these foods [68].

4.3. Traditional Foods, Knowledge and Skills

Much of the work done in urban contexts focuses on the role that traditional foods play in Indigenous diets and in potentially alleviating food insecurity [62,63,66–70,72]. Cidro *et al.* [63] make the argument that food security for Indigenous peoples in urban environments should be addressed through improving Indigenous Food Sovereignty (IFS). Access to traditional foods for Indigenous people in urban contexts promotes health and wellbeing [63,66,68], and is related to cultural learning [63,71]. In some studies, Indigenous people express a strong desire to eat traditional foods [63,66,71,72], including in one Canadian case study, a population of urban youth [71]. The hunter-gatherer heritage of Indigenous peoples is a source of pride [71], and some continue to practice activities such as fishing [61].

Access to traditional foods may be problematic, however, for many urban Indigenous people [62,63,66,68]. Challenges regarding accessing traditional foods were identified as the distance from reserve or disconnect with family who are not in the urban area [66,72], a loss of skills required to acquire and process traditional foods [66], and the emphasis on the monetary culture in the city [62,66] which also serves to reduce food sharing practices. The results from one study differed notably, in that participants (youth at an Indigenous high school) did have strong food-sharing networks that provided traditional foods, and the prioritization of traditional foods for these youth is credited to both family and school influence [71].

In some communities, traditional foods are not widely available even for purchase [68]. While in urban Australia, there has been a resurgence of “bush tucker” (traditional food) as “exotic” foods among non-Indigenous people; this market is directed towards tourists and not urban Indigenous residents. Even though “bush tucker” is not accessible to many Indigenous Australians due to the exorbitant costs (for example high end restaurants), it is a source of pride for urban Indigenous people [68].

Finally, some studies with youth in both Canada and Australia who have been raised in the city show they may not possess the knowledge, skills, or predilection for traditional foods [63,66,68]. There is a concern that urban environments have led to de-skilling among Indigenous youth [73]. Youth are trying to balance urban living with traditional values and learning, may have little opportunity to learn traditional food skills and knowledge [63,66], and may be geographically separated from their territories [68]. For some youth, experiences with traditional foods are limited, and Indigenous community events may be the only means through which youth experience traditional foods [68]. However, work by Kerpan *et al.* [71] shows that for youth who have both family experience preparing and eating traditional food, as well as the influence of Indigenous programming at school, traditional food was an important part of their diet. Cidro *et al.* [63] stressed the importance of intergenerational connections in order to ensure food knowledge and culture is passed on.

4.4. Food Sharing, Communal Preparation and Eating

Food security cannot be disassociated from the context of food culture which, for many Indigenous peoples, includes practices of sharing, preparation, and eating [63]. The value of food-sharing is important for many different Indigenous nations and cultures and promotes community and social cohesion, as well as physical and emotional health and well-being [63,66,68,70–72,74]. Hospitality and welcoming people through sharing meals is important, even if that dinner is based on store-bought rather than traditional foods [68]. Stretching meals even when food is scarce to include guests is a highly valued skill among many urban Indigenous Australians [69].

Food-sharing includes a range of practices from communal preparation and eating to the physical redistribution of food (traditional or market-based) within communities and among family members. Individuals and households sometimes acquire traditional foods through family and friends living in rural and remote areas [63,67,68] because the cost of purchasing traditional foods is often prohibitive in the city [67,68]. However, food sharing in regards to traditional and market-based foods continues to be less prevalent among urban Indigenous people when compared to those living rurally or remotely [62,66,74]. One study notes that bartering around food and knowledge transactions is common, as it was closer to a relationship of reciprocity around food than a commercial transaction [63]. Food sharing is also used as a coping strategy to deal with food insecurity in urban settings [74]. Multiple studies found that there was a need to strengthen food redistribution, especially of traditional foods through specific programs directed at facilitating the prevalence of food sharing [62,70,74]. In contrast, Kerpan *et al.* [71] found strong food-sharing in their study, including to address food insecurity, and noted that “these methods of food procurement by urban Aboriginal peoples might be rooted in the ways of their ancestors” (p. 396).

4.5. Food Programming

There are various food programs that cater to or are accessed by Indigenous people, including: cooking programs [60,69]; supplemental food programs [61,65]; emergency food programs [70–72]; innovative healing programs [75]; gardening and eating programs [63,66,73]; and school food programs [71]. For households forced to rely on supplemental and emergency food programs, concern was expressed about the quality and quantity of the food provided [65,71], and that children raised on foods from food banks and other food provisioning sources may develop unhealthy food preferences [65]. Some Indigenous households relied on supplemental and emergency programs for the majority of their food [65,70], and one study found urban Indigenous people accessed emergency food services more often than on-reserve and rural Indigenous [74]. In part, the latter could be a function of the unavailability of emergency food programs on many reserves.

A common theme was the importance for food programs to be culturally appropriate and consider existing social, political, economic, and gender power dynamics. In one study, participants appreciated supports for healthy eating, but considering the history of Indigenous colonization, certain approaches that were authoritarian or paternalistic led to resistance and/or lowered self-esteem on the part of

the participants [69]. Users of community food programs may show a preference for Indigenous run programs over non-Indigenous options available in the community [70]. As noted by a program organizer in Mundel and Chapman [73] (p. 170) “there needs to be culturally appropriate programming of this sort, for Indigenous people, not just, okay here’s a model and let’s invite Indigenous people”. Due to the “cultural specific beliefs and behaviours” that they found among their research participants, Kerpan *et al.* [71] note that programming for urban Indigenous youth cannot be designed from general research conducted among the non-Indigenous population. Zurba *et al.* [75] noted that the nutrition-emotion nexus of food security needs and gender aspects of food issues need to be better incorporated into programming. The link between food programming and IFS was noted in two studies [63,73], with the latter noting that good food programs can empower Indigenous people, increase capacity, reconnect people with cultural practices, and may even facilitate the decolonization process and make food sovereignty possible.

5. Discussion

Although the literature review examined three nations, all with over 50% of the Indigenous population living in urban areas, there were only 16 total articles that met the review criteria. The lack of urban Indigenous health studies has been noted in the academic literature, and the reasons given for this gap may also explain why there are so few urban Indigenous food security studies [76,77]. Richmond and Big-Canoe [77] state that the absence of urban Indigenous health studies in Canada is a reflection of “a lack of awareness of this rapidly growing pattern of urbanization, though it also reflects public policy discussions centred on the reserve-based population” (p. 229). In Australia, Eades and colleagues [76] postulate that the lack of research on urban Indigenous health could be due to a number of factors, including: the absence of any geographical boundaries in cities that separate Indigenous peoples from the general population; a prioritization of isolated Indigenous populations because their needs are perceived as more pressing than urban Indigenous people and, because of the similarities between the experience of urban Indigenous people and other disadvantaged groups living in urban areas. It may also mean that the popular perception that Indigenous people are tied to the land and bound by reserves is so strong that it precludes the dominant society from imagining Indigenous people outside of those spaces. In her study Penelope Edmonds found that the “presence of Indigenous peoples in settler colonial cities has often been erased from the historical consciousness” [78] (p. 6).

Of particular note, there was a marked lack of studies in the United States. In spite of a search that was broadened to include specific tribe names for each tribe with a population over 100,000 there were only two studies that met the inclusion criteria in the United States. In New York City, the city with the highest urban Indigenous people population in the United States (111,749 in 2010), Indigenous people represented only 1.4% of the total population [19]. A brief scan of the literature revealed that there is a wealth of literature that examines food security among other racialized and ethnic populations (including African Americans and Hispanic Americans), suggesting that the focus of urban food security research has been on other marginalized and disadvantaged populations in the United States rather than Indigenous people.

The literature review also revealed that most of the studies used qualitative methods, which allowed for an in-depth understanding of personal experiences. The use of qualitative methods reflects an effort to forefront the experiences and voices of Indigenous people. Some authors noted the purposeful use of methods that were meaningful to, and respectful of, the local Indigenous community (e.g. [61,66,72,73]). Yet, a qualitative approach poses some limitations, notably, the reliance on small sample sizes. There is a need for more research that looks at the broader picture of urban food security among Indigenous peoples to identify trends and patterns, and to provide longitudinal data. This includes work that isolates certain sub-groups (e.g., single parents, elders, multi-family households, *etc.*) that may be more vulnerable to food insecurity, as well as identifies specific urban centres (such as Toronto, New York, *etc.*) or neighbourhoods within cities, to better focus research and food programming needs. There were a few notable studies in the literature search that provided a

macro-level analysis, suggesting the data may be available if researchers choose to specifically examine urban populations. One study that looked at broader trends focused on Victoria, the most highly populated state in Australia [5]. However, the study failed to differentiate between urban and regional findings (notably, in the city of Melbourne), making it difficult to find and highlight areas of particular need. Another large population study of “off-reserve” Indigenous peoples in Canada [79], made no distinction between urban and rural Indigenous experiences. Urban and rural/reserve spaces offer different challenges for its Indigenous populations, access to nutritious food, food affordability, and service delivery are all necessary elements for consideration.

Although the literature has paid significant attention to historical shifts in the dietary patterns of Indigenous people that were a function of the arrival of Europeans, participation in the fur trade, forced settlement on reserves, and the erosion of access to land- and water-based food sources, comparatively little attention has been paid to how the diets of Indigenous people have changed as a function of increasing urbanization since World War II. This is surprising in light of the fact that more than 50% of the Indigenous people currently lives in urban areas in Canada, the United States, and Australia. Such an omission is startling particularly in consideration of the disproportionately higher rates of ill health and chronic disease experienced by Indigenous peoples living in cities [63], the ongoing and growing discussions of Indigenous self-determination, and the importance of Indigenous Food Sovereignty (IFS) in addressing the challenges faced by Indigenous people. As Cidro *et al.* observes “By re-situating Indigenous people’s relationship to food by returning to the ceremony of food production, processing, and consumption, by celebrating the gift of food as a part of a larger reciprocal arrangement with the land, Indigenous Food Sovereignty can become more operational, particularly in an urban, Aboriginal context” [63] (p. 15).

The relationship between food security and the concept of IFS, as discussed by Cidro *et al.* [63], was not prominent in the extant literature. Cidro *et al.* [63] notes that there is little known about IFS in an urban Canadian context, and indeed we found this to be true in all of the countries included under this scoping review. IFS is based on the premise that food security is not sufficient, but should address unequal power relations and that people must be reconnected to their food systems, with the recognition that food is sacred; people can actively participate in their food system; Indigenous people have the right to self-determination; and there is the need for supportive legislation and policy [32]. This concept has been incorporated into at least one national Canadian organization’s policy on Indigenous food [80]. The importance of IFS to food security for Indigenous peoples has been noted in a rural and remote context by Rudolph and McLachlan [81], who state that “the discourse surrounding the northern food crisis needs to move beyond food security to the more important dialogue around Indigenous sovereignty” (p. 1095). However, Cidro *et al.* [63] cautions that the conditions for IFS in urban environments are different for various reasons, including a different relationship to the land, urban influences on diet, and food skills, and these differences must always be considered. Many Indigenous people have had their connections to their communities and traditional lands severed through historical and ongoing policies and programs that actively or passively promote assimilation. Perhaps a shift from food security to food sovereignty and the focus of IFS on restructuring/reorienting power relationships and structures would help address some of the past and present injustices.

A more complete understanding of urban food security requires better understanding of the connections between urban/rural experiences of Indigenous people. For instance, Indigenous urbanization can be “characterized by high levels of mobility between reserve and urban areas” [82] (pp. 5–6). In northern Canada in particular there are high levels of movement between service centres and reserves. Thus, the urban/rural boundary is a false one in many instances. Urban Indigenous food security involves actors and activities in urban, rural, on-reserve, and/or remote environments. Yet, the linkages and flows of food and money among these places are not well understood. Fazzino and Loring [67] observe that the urban food environment is an important source of market-based foods for rural residents, who often come to the city to buy staple foods in bulk. Food flows between the urban

(often store foods) and the rural, on-reserve, or remote spaces (a combination of store and traditional foods), and the impact of these movements and linkages are a key area for future research.

6. Conclusions

Despite the high number of Indigenous peoples living in urban centres in Australia, Canada, and the United States, there is a paucity of literature on urban Indigenous food security. As a result, it is difficult to ascertain the breadth or depth of understanding required to design effective approaches, programs, and policies that meet the diverse needs of Indigenous households, communities and peoples in various urban locations. In the discussion above, we noted a few avenues of research that are critical for a more complete understanding of urban Indigenous food security, and, thus, should be explored. However, because of the lack of an adequate knowledge base on this important topic, researchers should be open to other pressing research needs that may be identified by Indigenous communities, as our understanding of urban Indigenous food security deepens. Due to the complexity of this topic, we advocate for an intersectional approach including an analysis of race, class, ethnicity, and space for a more complete understanding of food insecurity and, most importantly, the empowerment of Indigenous peoples and communities to determine their own needs and ways forward.

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