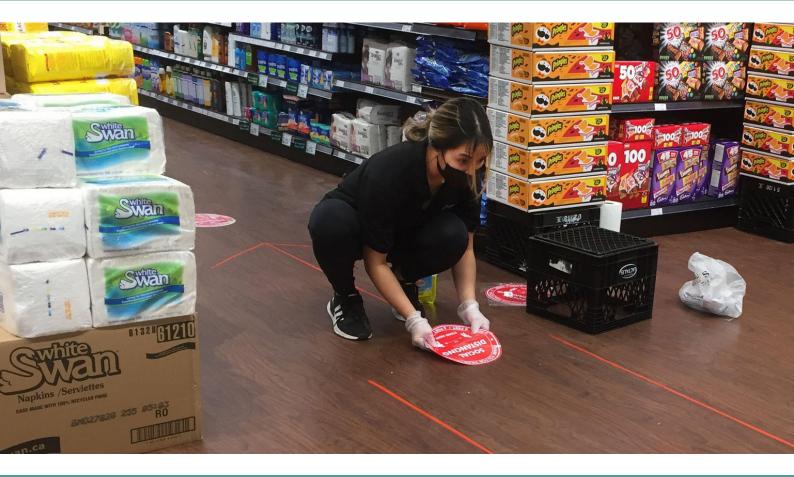
# Living Through the COVID-19 Pandemic as a Refugee in Secondary Cities in Canada: The Intersectionality of Immobility, Gender and Food Insecurity

Zhenzhong Si, Zack Ahmed, Sujata Ramachandran, Neil Arya and Jonathan Crush



# Migration & Food Security (MiFOOD)

Paper No. 33

Series Editors: Sujata Ramachandran and Jonathan Crush

#### Abstract

The COVID-19 pandemic exposed and exacerbated the vulnerabilities of migrants and refugees in secondary cities in Canada, where the restrictive food environment and limited resources heightened challenges related to food security. This study investigates how the intersectionality of immobility, gender, and food insecurity shaped the lived experiences of recently resettled Syrian, Somali and Afghanistan refugees in the Waterloo Region, Canada, during the pandemic. The mixed methods research approach integrates survey and in-depth interview data to examine refugees' motivations for migration, economic conditions, challenges in accessing culturally appropriate food, and the impact of gender roles. Findings reveal that structural barriers within the food environment, compounded by mobility restrictions and shifting gender dynamics, perpetuated a vicious cycle of marginalization that undermined migrants' overall well-being. Women respondents were particularly affected as primary caregivers, by bearing the disproportionate burdens of food-related household responsibilities under precarious circumstances. This paper contributes to the discussion on migration, food systems, and social inequalities by emphasizing the need for gender-responsive and culturally sensitive policies to address the compounded challenges refugees encounter during crisis circumstances.

#### **Keywords**

resettled refugees, gender, food security, intersectionality, COVID-19 pandemic, Canada

#### **Suggested Citation**

Si, Z., Ahmed, Z., Ramachandran, S., Arya, N. and Crush, J. (2025). Living Through the COVID-19 Pandemic as a Refugee in Secondary Cities in Canada: The Intersectionality of Immobility, Gender and Food Insecurity. MiFOOD Paper No. 33, Waterloo.

#### Authors

Zhenzhong Si, Balsillie School of International Affairs, Waterloo, Canada: zsi@wlu.ca

Zack Ahmed, Balsillie School of International Affairs, Waterloo, Canada: zahmed@balsillieschool.ca

Sujata Ramachandran, Balsillie School of International Affairs and Wilfrid Laurier University, Waterloo, Canada: sramachandran@balsillieschool.ca

Neil Arya, Wilfrid Laurier University, Waterloo, Canada: narya@wlu.ca

Jonathan Crush, Balsillie School of International Affairs, and Wilfrid Laurier University, Canada, and University of the Western Cape, South Africa: jcrush@balsillieschool.ca

#### **Cover Image**

Grocery store employee places social distancing sticker to guide customers during the COVID-19 pandemic. Credit: Nur-Photo SRL/Alamy



This is the 33rd Working Paper in the MiFOOD Working Paper series published by the Hungry Cities Partnership, an international network of cities and organizations that focuses on building sustainable cities and urban food systems in the Global South. The seven-year collaborative MiFOOD project is funded by a Partnership Grant from the Social Sciences and Humanities Research Council of Canada (SSHRC). A Canadian Institutes of Health Research operating grant (Funding Research Number: 179968) funded the research for this paper.

© Authors

Published by the Hungry Cities Partnership at the Balsillie School of International Affairs, Waterloo, Ontario, Canada

## Introduction

Two years after the COVID-19 pandemic ended, its aftermath continues to impact socioeconomic systems, highlighting the various vulnerabilities of human society that were exposed during the health crisis. One of the critical dimensions of the widely discussed socioeconomic consequences of the pandemic was its impact on food security around the world, particularly in low and middle-income countries (Béné et al., 2021; Chang et al., 2023; Hassen & Bilali, 2024). According to the Food and Agricultural Organization (FAO), the pandemic increased the number of people experiencing severe and moderate food insecurity by approximately 320 million (FAO et al., 2021). What's worse, after the sharp rise, global hunger has persisted at nearly the same level from 2021-2023, still plaguing 9.1 percent of the population in 2023 (FAO, 2024). COVID-19 is, therefore, a hunger crisis that has significantly hindered global progress toward the 2030 Sustainable Development Goals (SDGs), impacting not only the goal of zero hunger (SDG2) but also several other goals (e.g., SDG3, SDG5, SDG12) that depend on achieving food security (Begho, 2022; Hanna et al., 2024; Saccone, 2021; Shulla et al., 2021).

Migrants and refugees, particularly those living in urban areas reliant on precarious employment and social services, have been impacted significantly by the pandemic (Ahmed et al., 2024; Enns et al., 2024). Food insecurity among refugee households increased markedly during the pandemic, varying across location and population groups (Crush & Ramachandran, 2023; Kar et al., 2021). The Global Report on Food Crises (FSIN & Global Network Against Food Crisis, 2023) noted that many refugees and asylum seekers in certain countries faced acute food insecurity in 2022. For instance, 82% of the Syrian refugees in Jordan faced acute food insecurity. The pandemic also intensified existing inequalities in food accessibility and availability, as many refugees could not access food banks and grocery stores catering to their specific dietary needs based on cultural or religious practices (Dabone et al., 2022; Mori & Onyango, 2023). Additionally, recent studies have found that refugees faced higher levels of anxiety and stress related to food insecurity, impacting their overall well-being and ability to adapt to their new environments (Kong et al., 2022; Zangiabadi et al., 2024).

Refugees experience compounded vulnerabilities in host countries and countries of resettlement during the pandemic. Kimberlé Crenshaw's (1994) concept of "intersectionality" (Weldon, 2008) provides a critical theoretical lens to unpack these multiple and interlinked sources of inequality. Rooted in feminist scholarship and Black women's experience in the legal system, the concept of intersectionality examines how multiple, overlapping social categories —such as race, ethnicity, gender, and class—interact to produce unique forms of oppression or privilege (Bürkner, 2012). Refugees represent the "quintessential intersectional subjects" within migration studies (Nash, 2008). They have crossed multiple boundaries as they resettle and integrate into the social fabric of the new geographies where they have relocated (Bastia, 2014). These crossed boundaries cause disruptions in established systems where conflicts of interest in various ways result in numerous types of discrimination, oppression, socioeconomic disadvantages, and inequalities. These pre-existing challenges were compounded by the "mobility crisis" of the COVID-19 pandemic, as lockdowns, border closures, and travel restrictions, which further isolated refugees from essential resources and services (Crush & Ramachandran, 2023; Orjuela-Grimm et al., 2022).

During the chaos of the pandemic, refugees often found themselves at a disadvantage when accessing resources, including food and other necessities. Canada's food environment has exacerbated food insecurity among refugees and migrants. This exacerbation is driven by the Western-centric nature of Canada's food environment, with fast food and ingredients for Western diets being widely available, while culturally specific foods remain less accessible (Moffat et al., 2017; Stelfox & Newbold, 2019; Tarraf et al., 2017), coupled with car-dependent shopping patterns that place food outlets beyond walking distance. Moreover, structural barriers, such as their "othered" ethnicity, race and food culture often translated into language-related difficulties, economic precarity, and limited food availability, which further marginalized them within this socioeconomic system (Ahmed et al., 2023; Leone et al., 2020; Kavian et al., 2020).

Although the COVID-19 pandemic has exposed and exacerbated existing challenges for migrants and refugees in both large and small cities, refugees living in secondary cities face unique and, in many ways, greater challenges compared to those in primary cities. As Easton-Calabria et al. (2022) pointed out, more research is needed on secondary cities where urban refugees settle and how these settings affect their lives, livelihoods, and ability to integrate. Available studies have shown that the limited institutional, social and financial resources in smaller secondary cities have contributed to severe food insecurity among refugees and more difficulties in accessing basic services (Rahman & Ruszczyk, 2021; Ruszczyk et al., 2021). The food environment in secondary cities is often restrictive due to the limited number of ethnic food stores. The smaller refugee population in a secondary city region further reduces the community's ability to provide food support as well as the social and communal support that refugees could rely on during times of crisis. In addition, the COVID-19 pandemic exposed inadequacies in support services for migrant and refugee women, particularly in addressing cultural and linguistic barriers (Gillespie et al., 2022). Despite the multifaceted challenges facing migrants and refugees, few studies exist on their food experiences in Canada's secondary cities during the pandemic. In addition, very few studies have examined the relationship between migration and food security from a gendered perspective (Smith and Floro, 2020). This study explores the intersection of immobility, migrant status and gender with food security by examining the lived experiences of refugees in the secondary cities of Kitchener and Waterloo in Canada. Through this focus, the study aims to provide critical insights into how the unique social and structural challenges of secondary cities shape the food security and well-being of refugees.

This paper begins by reviewing existing literature on the vulnerabilities experienced by refugees during the COVID-19 pandemic, with a particular focus on the barriers faced by migrants and refugees in Canada when accessing critical resources. It then outlines the mixed-methods approach employed in this study, detailing the integration of survey and interview data collected from migrants in the Waterloo Region. The analysis explores key themes, including motivations for migration, economic conditions, food security status, challenges in accessing culturally appropriate food, immobility, the use of food banks, and the intersections of these factors with gender. By addressing these dimensions, the paper provides a comprehensive understanding of the complex realities faced by migrant and refugee communities during the pandemic.

## Intersectionality of COVID-19, Immobility, Gender and Food Security

Several studies have highlighted the intersectionality of immobility, gender, and food security for migrants and refugees during the COVID-19 global crisis (Gillespie et al., 2022; Orjuela-Grimm et al., 2022). In Canada, immigrants and refugees experienced intensified negative socio-economic impacts, worsened by precarious employment, racial discrimination, and mental health challenges (Arya et al., 2021; Nakhaie et al., 2022). Some of these challenges are closely associated with the various barriers that refugees and migrants in Canada faced in accessing healthcare, economic, and social support during the pandemic, all of which contributed to food insecurity (Edmonds & Flahault, 2021; Ramachandran et al., 2024). Despite the availability of federal government programs such as the Interim Federal Health Program (IFHP) that provided limited and temporary coverage of healthcare benefits for resettled refugees and refugee claimants, refugees in Canada still faced barriers. These include well recognized structural barriers such as language barriers needed to complete application forms and lack of awareness and misunderstanding of the program among healthcare providers and refugees. On top of this, other well-recognized structural barriers, including employment-related discrimination and housing-related stress were significantly exacerbated as the pandemic unfolded (Hamilton et al., 2020).

Moreover, in-depth studies of how the pandemic impacts refugees in Canada reveal the gendered nature of the different economic and social impacts on women and men. For instance, a study of Yazidi refugees shows that while some male refugees lost their jobs because of the pandemic, women refugees were more concerned about the economic future of their family (Banerjee et al., 2022). This elevated concern was perhaps because women assumed the often "invisible" and under-recognized responsibilities of caregiving and becoming the financial providers during the pandemic. Another study of skilled immigrant women underscored the pandemic's gendered nature (Nardon et al., 2022). It was less feasible for women to work from home due to limited social support and increased family responsibilities. Despite their critical role in long-term care facilities, women immigrants working as healthcare aides faced economic exclusion, workplace precarity and broader social exclusion (Lightman, 2022). The situation was even more difficult for migrant women without legal status (Abji et al., 2020). The pandemic exacerbated gender-based violence and food insecurity for migrant women, with the overlapping systems of sexism, racism, and xenophobia contributing to their increased vulnerability (Gillespie et al., 2022).

Despite these many challenges, women migrants had limited accessibility to adequate support because of various reasons (Ramachandran et al., 2024). Studies in India and Europe have shown that migrant women experienced desperation and panic grief due to food scarcity and lack of access to healthcare and the labour market during the pandemic (Germain & Yong, 2020; Hamedanian, 2022; Sahayam & Tiwari, 2022). In Canada, non-documented women were largely invisible in the public health response and support programs, even though women are more likely to live in poverty, be single-parent household heads, and enter Canada as dependents (Abji et al., 2020). They were excluded from emergency income support provided by the Canadian government such as Canada Emergency Response Benefit (CERB) and the Canada Child Benefit.

Financial hardship, documentation status, and reduced humanitarian assistance were key factors contributing to the alarming increase in food insecurity among migrants and refugees during the pandemic (Ahmed et al., 2023; Karki & Moasun, 2023; Sharma, 2020). Studies before the pandemic pointed out that 40-71% of refugee households resettling in high-income countries were food insecure, which was significantly higher than the local population in host countries (Mansour et al., 2020; Wood et al., 2021). This already disproportionate landscape of food insecurity worsened during the pandemic. Despite this critical challenge facing refugees, medicines and food were often not included in the support provided to those in isolation and quarantine during the pandemic (Cardwell et al., 2022). Even in cases where support was accessible, refugees often found them to be inadequate (Javaher, 2020). These findings underscore the importance of addressing well-entrenched systemic inequities and improving food security measures for vulnerable populations in Canada.

Building on this understanding of the complex challenges facing migrants and refugees, this paper offers selected findings from the survey and interview data gathered in the Kitchener-Waterloo (K-W) area in Ontario, Canada, in 2022. It aims to depict the experience of refugees in Canada during the COVID-19 pandemic, particularly their household food security status. It also evaluates how gender and COVID-19 have reproduced the structural challenges they face as they resettle in Canada. Drawing on the notion of intersectionality in conceptualizing subjectivity, defining identity and shaping one's lived experience (Birchall, 2021; McCall, 2005; Nash, 2008), this research sheds light on the intersectionality among health, gender, and food insecurity of vulnerable groups exposed by the pandemic. It also highlights the policy interventions needed for enhancing the food security and long-term livelihood viability of refugees in Canada.

## Study Sites

The study site of Waterloo Region in Ontario province includes the three cities of Waterloo, Kitchener, and Cambridge and four surrounding townships. With an estimated 33,000 refugees and a broader immigrant population of around 150,000 in 2021, the region represents the ninth largest destination for refugee resettlement in Canada and the fourth largest in Ontario (IRCC, 2021). The region also hosts a significant number of non-permanent residents, including students, temporary foreign workers, and asylum seekers. The growth of the immigrant population in this region since 2015 has coincided with a marked increase in demand for food assistance, particularly during the pandemic (The Food Bank of Waterloo Region, 2020).

One of the main reasons Kitchener-Waterloo was selected for this study is its status as a secondary city in Canada. Secondary cities are distinct from primary cities like Toronto. The latter benefit from advanced social networks, extensive resources, and marked policy attention. Secondary cities are typically second-tier urban centres within a hierarchical system, defined by their population size and urban functions, and often serve important regional roles despite having fewer resources and less-developed institutional capacity (Goodall, 1987). In contrast, primary cities often serve as political, economic, and cultural hubs for their regions. Their larger scale and substantial investments in infrastructure typically enable them to offer more comprehensive support systems for vulnerable populations (Galiani & Kim, 2008). Secondary cities, however, play a crucial role in managing urbanization and fostering balanced development, acting as transitional zones between rural areas and major metropolitan centres (Brand et al., 2021).

Research highlights the potential of secondary cities to drive regional growth and innovation by providing adequate infrastructure to meet population growth demands, sometimes outperforming metropolitan areas in service delivery (Marais & Cloete, 2017). These cities often house globally active firms in non-financial industries, exhibit distinct migration patterns and can foster innovative political and professional cultures (Hodos, 2007). They can act as catalysts for dispersed economic growth, offering opportunities for more equitable urban development while alleviating pressure on primary cities (Brand et al., 2021; Pendras & Williams, 2021). However, challenges persist, including lower household incomes compared to primary cities, limited resources, and the need for tailored policies to support their growth and building capacity to address socioeconomic vulnerabilities (Marais & Cloete, 2017; Rondinelli, 1983).

In this context, Kitchener-Waterloo exemplifies the dual potential and challenges faced by secondary cities. While it plays a vital role in the region, supporting a significant and diverse refugee population, its limited infrastructure, constrained resources, and less robust institutional capacity pose unique difficulties. Studies in other countries have pointed out that the COVID-19 pandemic particularly

heightened the vulnerabilities of low-income groups in smaller cities (Ledraa & Aldegheishem, 2023; Ruszczyk et al., 2021). In Kitchener-Waterloo, these vulnerabilities were compounded by disruptions in public services, limited availability of culturally appropriate food sources, and the strain on housing and employment sectors. As a mid-sized urban centre, Kitchener-Waterloo faces unique challenges in addressing the intersecting issues of food insecurity, economic instability, and restricted mobility, especially for its significant and diverse refugee population. Examining the lived experiences of migrants and refugees in Kitchener-Waterloo provides valuable understanding of how food security and health conditions are shaped by the unique limitations of secondary cities, filling an important gap in the literature and offering critical guidance for designing targeted and equitable policies to enhance support for refugees in similar urban settings across Canada.

## Methodology

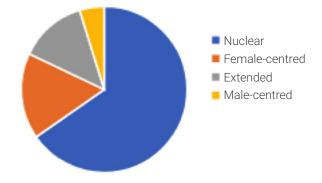
Within this specific context, the research team conducted a survey with 85 refugees and 37 in-depth interviews from July to September 2022. The research included refugee households from three countries of origin: Afghanistan (10 surveys and 7 interviews), Somalia (40 surveys and 20 interviews) and Syria (35 surveys and 10 interviews). Among the 85 respondents, 56 were female and 29 were male. In total, 82 participants completed the food security questions and constitute the primary group for the food security analysis. Despite the small sample size, the survey data provides important insights into the social and economic conditions of refugees living in the Waterloo Region of Canada.

Survey and interview participants were recruited through snowball sampling following initial contact through local migrant organizations and the study's Research Assistants. Our RAs were peer researchers drawn from these communities. They spoke one major language of the study groups and utilized their cultural expertise and social networks to build trust with these participants. Their deep understanding of the sociocultural norms and values played a crucial role in fostering effective communication with respondents, ensuring the success of the research project, and generating nuanced insights into the lived experiences of refugees in Kitchener-Waterloo.

# **Demographic Profile**

The demographic profile of study respondents highlights key characteristics of the refugee households studied. Their average household size is 5.7 members, with an average age of 40.5 years among respondents. Approximately 65% of the households are nuclear, reflecting the diversity in household structures and offering a window into the socio-economic realities of refugee families in Kitchener-Waterloo (Figure 1). This rich dataset serves as a foundation for understanding the unique challenges and intersecting vulnerabilities refugees face in this secondary city context.

#### Figure 1: The Household Structure of Surveyed Refugee Households



## Motivations for Migration

Respondents were asked to identify the primary reasons for their migration to Canada. The top three motivations cited were "overall living conditions", "to escape war" and "education" (Table 1). While food insecurity and hunger ranked as the sixth major reason, it remains a critical factor intertwined with other drivers, such as climate change and economic instability. Notably, climate-related factors including drought, floods, and other natural disasters were ranked seventh. However, these environmental drivers often compound broader structural issues, making it difficult to isolate their specific role in migration decisions. For example, one Somali respondent explained how the compounded effects of conflicts forced their displacement:

I was born in Jubbaland. I grew up with no formal education, taking care of my family's cattle. But due to prolonged conflict and cyclical drought, it became difficult to take care of our animals- most of them perished. So, I sought refuge in Kenya's Dadaab refugee camp where I met my husband in the mid 2000s.

#### Table 1: Main Reasons for Migrating to Canada

# **Economic Conditions**

Economic hardships among refugee households in Kitchener-Waterloo were particularly pronounced during the pandemic, reflecting the broader structural barriers to financial stability. Less than half of the respondents (41%) reported receiving social assistance programs such as the Canada Emergency Response Benefit (CERB) and the Ontario Disability Support Program (ODSP), while 44% were unemployed. Furthermore, 66% of the households relied on child benefits, underscoring the critical role of governmental financial support in maintaining basic needs.

Among the respondents who were employed, a significant proportion worked in low-wage service sector jobs, such as in sales, customer service, or as cooks, bakers, servers, hairdressers, manufacturing and utilities, trade and transport and equipment operators, Uber drivers, plumbers, as well as occupations in education and government services. Very few were involved in high-skilled business, finance, administrative, health or science-related occupations. Employment conditions in factories and small stores often made social distancing challenging, increasing the risk of contracting the virus. Additionally, hourly workers in food stores, restaurants, and factories faced significant reductions in work hours due to store closures and lockdowns.

Reasons	Frequency (n=)	Percentage (%)
Overall living conditions	69	81.2
To escape war/civil war/armed conflict	67	78.8
Education/schools	50	58.8
Safety of myself/family	49	57.7
Moved with family	45	52.9
Food insecurity/hunger	23	27.1
Drought/flooding/climate change/natural disaster	13	15.3
Illness related	9	10.6
Religious reasons	4	4.7
Eviction	1	1.2
Crime	1	1.2
Other	2	2.4

This employment pattern also has significant socioeconomic implications for refugees in the long run. Existing studies have pointed out that refugees often experience downward mobility (Gans, 2009) in what Lumley-Sapanski (2021) called "the survival job trap" upon resettlement. These "survival jobs" in the service, labour, and lower-wage sectors generally offer low pay, limited benefits, and reduced job security, and create financial instability, which makes it difficult for them to improve their economic and, thus, social status. These jobs also restrict refugees' upward social mobility due to their lack of pathways to skills upgrading and development, which can confine them into a cycle of low-paying jobs without real opportunities to transition to higher-wage or knowledge-based roles. This employment pattern not only reinforces their lower socioeconomic status but also hinders their integration into Canada. The relegation to low-status, low-paying employment affects negative perceptions of refugees in Canadian society and thus creates structural barriers that hinder their access to professional networks and other opportunities for economic advancement. It perpetuates their marginalization within Canadian society unless targeted interventions are introduced.

Although many migrants and refugees aspire to improve their living conditions after moving to Canada, they often find that the reality falls short of their expectations, particularly because their previous work experience and qualifications are not equivalently recognized in the Canadian job market. As one woman from Syria noted,

Employment, honestly, is a huge issue here. Because we arrived in Canada with our degrees and well-educated and you get ambushed by the fact that you 'freeze'. They expect you to start from square one and you still do not reach where you were back home. My husband has a PhD, and he still hasn't gotten any opportunity to teach at the university or even be a teaching assistant. So, the employment issue is a stressful one for me because we did not get true opportunities that are equivalent to our degrees and experiences.

Fifty-six percent of survey participants were resettled in Canada under the government-sponsored program as Government Assisted Refugees (GARs). As government-sponsored resettled refugees, they received one year of support after landing. Several respondents noted the importance of these social assistance programs for their resettlement and socioeconomic integration in Canada. They also stated that their living conditions deteriorated after the first year or two following the termination of government support.

A key finding of the study is that the COVID-19 pandemic significantly worsened the economic circumstances of the respondents. Two-thirds of participants said that their financial standing had deteriorated. Of these, 46% of respondents claimed that their economic conditions were much worse because of the pandemic, and another 31% claimed that their economic conditions were worse. Only 5% accepted that their economic conditions were unaffected by the pandemic. Negative changes to the employment of household

members were an important reason for this shift. When asked about the pandemic's impact on employment, 30.5% said they had lost their job, and 15.9% of respondents were working reduced hours. Only 8.5% of the study respondents said their employment conditions were unchanged and unaffected.

The economic conditions of migrants were heavily impacted by the high cost of housing, which significantly increased during the pandemic (Rabiah-Mohammed et al., 2022). In the absence of a work record and proof of income, many migrants were forced to rent under a guarantor's name. In some cases, larger family sizes also made it difficult for migrant households to find appropriate and affordable housing. As one Afghan respondent explained,

All my husband's salary is going towards rent, and we are left with paying for the rest of the things like groceries, phone bills, and internet from the allowance we get for our children from the government. ...We had to lie to the landlord (claiming) that we are five people in the family because you know he wouldn't give us a three bedroom for a family of seven.

## Food Security

The survey results demonstrate that migration is a critical coping strategy for food insecurity among refugee households, although the profound connections between migration and food security have long been overlooked in policy agendas of international organizations and states (Crush, 2013; Smith & Floro, 2020). In total, 72% of surveyed households reported that migrating to Canada improved their households' food security. On average, refugee households spent \$1,142 (CAD) on food the month before the survey. This food expenditure constituted 26% of their average household income and 31% of their total expenses.

We have quantified the food security level of participants at the household scale by using the widely adopted and tested FANTA food security index (Coates et al., 2007). Table 2 compares the average household food insecurity access scale (HFIAS) and household dietary diversity score (HDDS) of households from different countries of origin. The HFIAS was calculated based on responses to nine questions about the household's experience of food access. The result ranges from 0 to 27. The higher the number, the more food insecure the household. In contrast, the HDDS indicates the number of food groups the household consumed in the past day, ranging from 0 to 12. The higher the score, the more diverse the diet and, thus, food secure. Table 2 shows that despite the improved food security level, refugee households in Kitchener-Waterloo still faced a relatively high food insecurity challenge, with HFIAS scores above six among all three groups. Refugees from Syria were the most food insecure. When answering questions about food access, 64% of households worried that they would not have enough food, and 70% had to reduce food variety due to lack of financial resources to purchase food. However, these refugees enjoyed a highly diverse diet, especially refugees from Somalia.

#### Table 2: Household Food Security by Participants' Country of Origin

Country of origin	HFIAS	HDDS
Afghanistan	6.3	7.9
Somalia	6.7	9.5
Syria	6.9	8.1

The Household Food Insecurity Access Prevalence (HFIAP) calculation presents a more nuanced picture regarding the variation of food insecurity levels (Table 3). Refugee households in Kitchener-Waterloo were generally food insecure despite the government's support programs. In comparison, 88.9% of surveyed Afghanistan refugee households, 82.1% of Somali refugee households, and 73.5% of Syrian refugee households were categorized as food insecure to various extents. Syrian refugees were most likely to be severely food insecure. In comparison, Somali refugees were more likely to be moderately food insecure.

# Cultural Food Access and Immobility

One significant factor contributing to food insecurity among refugees during the pandemic was the difficulty in accessing culturally appropriate food. Our survey shows that almost all refugees relied on ethnic food stores and prominent supermarket chains such as Food Basics and Sobeys to access food during the pandemic. It is also noteworthy that 58.5% of respondents used farmers' markets, where some foods were typically more affordable, and 39% used food banks (Table 4). In contrast, very few respondents and their households (less than 10) had access to shared meals provided by members of the community, community soup kitchen, or school lunch program, meals provided at religious institutes, online food delivery or self-pickup, or participated in urban agriculture. This weak support is likely due to the limited availability of these alternative food sources in small cities and the restricted access to these venues because of the lockdowns.

For most refugees who relied on ethnic food stores as their primary food sources, reduced mobility during the pandemic significantly impacted their food security. The weak availability of ethnic food stores and restaurants in Kitchener-Waterloo while accessing culturally appropriate food was already a significant hurdle for refugees before the onset of the pandemic. As residents of smaller secondary cities, it has been difficult for them to find culturally appropriate food and food ingredients essential to their diets. A 62-year-old Somali female participant mentioned these difficulties,

It can be difficult to find Somali cultural food in Kitchener, especially if you don't drive. Most people travel to Toronto to find Somali cultural foods. When we need to buy Somali food, I always ask friends who drive to take me to Toronto.

The need to drive to Toronto, which often takes more than one and a half hours, to purchase culturally appropriate ethnic food exposed another major challenge for refugees. Weak mobility and the need to use public transit to purchase food was adversely affected during the pandemic. Many marginal migrants and refugees do not own cars or have driver's licenses. Bus routes were suspended or discontinued during lockdowns. Our respondents highlighted the difficulty of accessing ethnic food without a car. Even within Waterloo, having a car and being able to drive was essential for food access because it was common for refugees to travel to multiple stores to get the food they need, which could be time consuming, putting pressure on the already tight schedule of respondents, especially female participants. This reliance on private transportation underscores

Table 3: Prevalence of Different Levels of Household Food Insecurity by Respondents' Country of Origin

HFIAP Categories	Afghanistan	Somalia	Syria
Food secure	11.1%	17.9%	26.5%
Mildly food insecure	66.7%	28.2%	32.3%
Moderately food insecure	11.1%	38.5%	14.7%
Severely food insecure	11.1%	15.4%	26.5%

#### Table 4: Commonly Used Food Sources during the Pandemic

Food sources	Frequency (n=)	Percentage (%)
Ethnic supermarket or grocery stores	81	98.8
Large supermarket chains	80	97.6
Farmers' markets	48	58.5
Food bank	32	39.0
Eating at restaurant	24	29.3
Small grocery stores/green grocers/shops	20	24.4
Prepared meals through online delivery service	12	14.6

the intersection of mobility constraints and food insecurity. A Syrian participant discussed these challenges,

The main thing is that we have to go to several stores to get everything we need, so it takes up an entire day. You cannot find everything in one store. It takes up 4-5 hours from a weekend.

The reduced food sharing among neighbors within the refugee community due to social distancing practices and quarantines was also evident through our interviews. While accessing food became challenging for some who did not have cooking skills, others had to reduce the frequency of their grocery shopping and stock up on certain food items. Some respondents found grocery shopping to be more difficult due to the long waiting times, reduced store capacities and empty shelves. For example, a single mother from Syria remarked:

Going to the supermarket in itself was hard. The weather was cold and you had to wait in line for a long time. I would change what we wanted to cook based on that. If we had to wait for a long time, we would go back home and make do with what we had. Also, a lot of the shelves were empty, so you wouldn't even find what you wanted.

Increased food prices had another deleterious effect on their food security, worsened by other increasing living costs that drained their relatively low incomes. The survey shows that 41.5% and 19.5% of respondents had gone without consuming certain types of foods because of high food prices once a month and once a week over the past six months prior to the survey, respectively (Table 5). More expensive food such as meat, fish, and fruits were the most mentioned items that migrant households could not afford. Over 60% of respondents reported that their households had foregone meat, while 53.6% indicated difficulties affording fish or shellfish. Additionally, 48.2% of respondents noted challenges in accessing fruits, and 30.4% faced difficulties obtaining certain vegetables. Generally, most people could afford tuber vegetables, beans, and lentils despite economic hardship. However, specific vegetables frequently consumed among refugee communities from Syria, Somalia, and Afghanistan, such as spinach and okra, were commonly highlighted as costly items during interviews. Healthy food options commonly used in the traditional diets of these ethnocultural groups, such as ghee and olive oil, were also less affordable. In conclusion, the intersection of immobility and food insecurity during the pandemic disproportionately impacted migrant communities. Their reliance on ethnic foods, which are often limited in availability in smaller cities, combined with already restricted access to transportation—a limitation exacerbated by the pandemic—intensified these challenges.

# Accessing Food Banks

Studies have highlighted the crucial role of food banks in addressing food insecurity during the COVID-19 pandemic, demonstrating their remarkable resilience and innovation (Capodistrias et al., 2021; Lanier and Schumacher, 2023). Although food banks faced significant challenges such as supply chain disruptions, increased demand, and volunteer shortages (Esmaeilidouki et al., 2023; Slater et al., 2022), they were able to redistribute higher amounts of food compared to pre-pandemic levels. For example, the Food Bank of Waterloo Region experienced a 26% increase in food distribution and a 36% increase in food hamper use in the first year of the pandemic. It also distributed more than 6.8 million pounds of fresh, frozen, and non-perishable food from July 1, 2020, to June 30, 2021 (The Food Bank of Waterloo Region, 2021). However, this data does not provide stratified information to distinguish the specific impact on refugees and migrants.

Despite these significant achievements, our survey data indicates limited food bank use among the refugee community. While some respondents (n=20) reported accessing food banks at least once a month, many relied on them less frequently, or not at all. Interviews with participants revealed several challenges that likely contributed to this limited use, including insufficient supplies, poor food quality, and inadequate service, which impacted refugees' ability to rely on food banks as a consistent food source. The limited quantity of food provided by food banks was particularly problematic

Table 5: Types of Food	Participants Lacked	during the Pandemic
------------------------	---------------------	---------------------

Food type	Frequency (n=)	Percentage (%)
Beef, pork, chicken, duck, lamb, goat and other meat	34	60.7
Fish or shellfish	30	53.6
Fruits	27	48.2
Vegetables	17	30.4
Foods made with oil, fat, or butter	14	25.0
Milk, yoghurt, cheese or other milk products	12	21.4
Eggs	11	19.6
Rice, noodles, bread, or any other staples	10	17.9
Sugar or honey	7	12.5
Beans, peas, lentils, or nuts	2	3.6
Potatoes, sweet potatoes, yams, or any tuber vegetables	1	1.8
Condiments, tea, or coffee	1	1.8

for larger families. One Afghan respondent emphasized the mismatch between food bank provisions and family size,

You know that Afghan families are big, and the food bank assistance cannot address the needs of a family of eight, for example.

The food bank system also reinforced the cultural food insecurity of study participants. Several respondents highlighted that there were no halal food options. They often received culturally inappropriate items, such as soybean-based foods and beans, which they did not generally consume and would go to waste. One Syrian mother with two children highlighted these deficiencies in the food provided by the food bank,

They cater to one part of the need, but it is not sufficient for an entire family. And they do not cater to our Arab community as they do not offer everything we are looking for. So, if Muslim organizations also participate, it would be more inclusive.

Another respondent also commented in a similar vein,

A lot of it (food provided by the food bank) is not culturally appropriate. For example, we do not eat beans. So, if I get beans, what should I do with them? Another thing I noticed is, because I was not at the receiving end, that the volunteers are unkind to recipients. So, if someone asks for a replacement, the volunteers reply harshly and refuse.

### Gender

Research indicates that gender significantly influenced household food security during the COVID-19 pandemic, with women and female-headed households experiencing more significant declines in dietary diversity and nutrient intake compared to men and male-headed households (Akalu and Wang, 2023; Shahbaz et al., 2021). Women's roles in social reproduction and unpaid care work exacerbated their food insecurity, as they managed household food needs amid declining incomes and rising costs (Davies et al., 2024). Increase in care work responsibilities during the pandemic and their financial vulnerability due to their employment in precarious work sectors intensified these challenges (Doss et al., 2020).

Despite the small sample size, our study's findings confirm that female-centred households were more likely to be food insecure, and nuclear households were most likely to be severely food insecure (Table 6). Using the FANTA HFIPA indicator, only 8% of female-centred households were classified as food secure. By comparison, 22% of nuclear households and 18% of extended households met the criteria for food security.

One critical factor that limited women's agency is their limited decision-making power over daily matters. Although women were primarily responsible for preparing food for their families, 27.4% were unable to make independent decisions, even if they wanted to, about the type of food their family would consume, with this constraint particularly affecting women from Syria (44%). Additionally, 33.9% had to get permission from someone in their households before they could go to the market or shops alone. In addition to relying on their husbands and other family members for decision-making, the burden of housework further limited their opportunities for career-related capacity building. Among women respondents, 64.5% were the person in the household who spent the most time doing housework, such as cleaning, cooking, and/or caring for children or other household members. 35.5% of female participants reported that these housework responsibilities prevented them from engaging in paid work or participating in education or training. Interviews also revealed that while many migrants must pursue additional education and training to obtain Canadian credentials, migrant women face substantial barriers. The heavy burden of household responsibilities, intensified by the pandemic, makes further education nearly unattainable for many.

Interviews with women migrants reveal additional nuanced insights into the pandemic's disproportionate impacts on women and girls, mainly stemming from pre-existing cultural norms around household labour division. The sudden increase in housework, especially tasks related to food preparation and health care, particularly impacted women's daily lives. As a 40-year-old Afghan mother pointed out,

I think it affected women, especially housewives and mothers differently than men because suddenly we were responsible for the health of everyone in the family. All the important things that could prevent COVID, like cleaning and healthy diet are all women-related duties. We had to take all the burden for cleaning, cooking, and taking care of the children and everyone else in the house. I had to make sure that everyone was eating on time and enough, sleeping on time, washing their hands, and taking all other important steps like wearing a mask.

Household structure	Food secure (%)	Mildly food insecure (%)	Moderately food insecure (%)	Severely food insecure (%)	Total number of households
Extended	18	45	27	9	11
Female-centred	8	38	38	15	13
Male-centred	67	33	0	0	3
Nuclear	22	31	22	24	54

In addition to challenges related to household labour division, in the in-depth interviews, some women respondents discussed the increase in domestic violence within the community. One Afghan respondent made the following observation,

There were some women in our community who complained about how their husbands became aggressive and were short tempered because they either lost their jobs or were not making enough. They were stressful times and affected everyone in some ways.

The pandemic underscored the intersection of gender and food insecurity, as women's dual roles as caregivers and economic contributors placed them at the epicentre of household crises.

### Discussion

Drawing on survey and interview data, this study examines the unique challenges recently resettled refugees face in Kitchener-Waterloo, Canada. Key findings of this study underscore the intersectionality of immobility, gender, and food security in structuring the challenges they encountered during the pandemic. These intersecting challenges are deeply interconnected, compounding the vulnerabilities of refugees and magnifying the impact of the pandemic on their daily lives. In the Canadian context, despite the various supports provided to refugees by the government, civil society and private sector, refugees' wellbeing during the pandemic has been significantly affected by these intertwined issues. The findings of this study indicate that the high level of food insecurity among refugees was not solely driven by worsening precarious economic conditions. Structural barriers within the food environment also shaped these challenges, which limited access to culturally appropriate food. Furthermore, reduced mobility and inadequate food bank support exacerbated their food insecurity, compounded by shifting gender dynamics that placed disproportionate burdens on women within these households.

The interplay of multiple linked factors created a vicious cycle that entraps many migrants and refugees, making it difficult for them to break free. The COVID-19 pandemic, in this context, was not just a health crisis but a multifaceted mobility, social and food security crisis. Poor health, whether due to pre-existing conditions or COVID-19, restricted individuals' ability to work or move freely, increasing the burden of domestic responsibilities on women in these households and reshaping their roles in food-related tasks. The resulting stress exacerbated mental health challenges, compounding barriers to employment that led to limited financial resources. Limited financial resources, rising food costs and restricted mobility in a food environment with limited access to culturally appropriate food, further constrained their food choices, affordability, and security. These conditions, in turn, perpetuated a cycle of deteriorating health and worsening food insecurity. This intersectionality is reflected clearly in the experience of a Syrian female participant.

The pandemic has completely changed how we carry out food related activities. I am no longer in charge of purchasing and cooking food due to my mental health status. My husband was in a long coma after contracting COVID-19. I was forced to take care of him, leaving the responsibilities of purchasing food to my children who were also affected by the COVID-19 and their father's demise. So, we did not pay much attention to food as we used to before the pandemic. High cost of living and increased food prices also meant we had to reduce the amount of food we purchased as a family. It was truly a difficult moment for us.

The experience of a Somali male respondent also underscores the interplay between health and food security.

I lost my father to COVID-19 after a prolonged period of time in hospital. That affected our mental health situations as a family due to high stress levels. This disrupted my eating pattern and nutritional intake. I ate a lot of fast food as a result I have significantly gained weight during the last few years of the pandemic.

Food insecurity, therefore, is not merely an issue of food access. This is particularly true for migrants and refugees struggling to make a living and adjust to a new food environment that often does not align with their dietary preferences. As our findings about the use of food banks show, food assistance programs alone cannot effectively address the long-term food security of refugee households. The vicious cycle underpinned by the intersectionality of immobility, gender, health and food security was especially prominent during the pandemic. These disadvantages need to be addressed and rectified to improve the overall wellbeing of migrants and refugees.

## Conclusion

The COVID-19 pandemic underscored the complex intersections of gender, immobility, health, and food security, which compounded the vulnerabilities of migrants and refugees. For many, the abrupt restrictions on movement exacerbated pre-existing barriers to economic stability, particularly for women, who are often primary caregivers and disproportionately represented in informal jobs. It also created additional barriers to healthcare, economic support, and social connections (Edmonds & Flahault, 2021; Sharma, 2020). Gender roles and increased responsibilities during the pandemic frequently limited women's mobility further, restricting their access to essential resources, employment and personal development opportunities. Lockdown measures left many migrants and refugees in precarious situations, with reduced work hours and restricted mobility, preventing them from traveling for work, accessing support networks, or obtaining culturally appropriate food. These circumstances significantly intensified their food insecurity.

Intersectionality in this context reveals how these multiple, overlapping identities—such as gender, migrant status, and

health vulnerability-interact to create compounded risks (Hankivsky, 2012; Larson et al., 2016; Turan et al., 2019). Health issues, often already prevalent due to the conditions of migration and resettlement, were heightened by food insecurity, as limited access to nutritious, familiar foods weakened immune responses and exacerbated stress and mental health challenges (Fang et al., 2021; Milán & Martens, 2023). The pandemic further intensified these pre-existing vulnerabilities, creating a unique crisis of immobility, where refugees faced not only physical restrictions on movement but also sociocultural and economic barriers that trapped them in cycles of deprivation. This burden was particularly heavy for women, who were often tasked with securing food under difficult circumstances (Gillespie et al., 2021; Kalbarczyk et al., 2022). Interpreting intersectionality here highlights how these interlinked factors coexisted and amplified one another, creating a web of insecurities that were far more complex and difficult to navigate than any single factor alone. This dynamic demonstrates the critical importance of addressing structural inequalities in food systems and transportation infrastructure, particularly in secondary cities, where refugees are disproportionately affected. Understanding this intersectionality is crucial for developing policies that address the layered needs of migrants and refugees in crisis situations, particularly in designing gender-responsive and culturally sensitive interventions for food security.

Other factors identified in our study are also crucial for migrants and refugees to escape the cycle of vulnerability. Tackling language barriers emerges as a top priority for many refugees, followed by better recognition of their education and work experience from their countries of origin. Language barriers, particularly during a global crisis, exacerbated feelings of socioeconomic isolation and limited refugees' ability to access critical resources, such as food assistance programs or job opportunities (Golesorkhi, 2023). Addressing this issue requires investments in multilingual community services and support networks tailored to refugees' specific cultural and linguistic needs. Additionally, increased support for housing is essential, as housing costs consume a growing portion of refugees' income. The role of housing stability cannot be overstated in mitigating food insecurity, as the financial strain of high rent often leaves refugee households with inadequate funds to meet their dietary needs (Rabiah-Mohammed et al., 2022). Social assistance programs must also be gender-responsive to address the disproportionate impact of the pandemic on women refugees. This includes providing targeted support to alleviate women's food- and health-related household responsibilities and address domestic violence concerns. Integrating these programs with employment and skills training initiatives for women would further enhance their economic independence and resilience, creating pathways out of poverty and insecurity (Mousa, 2018).

Further research is required to explore the complex relationships between migration status, year of migration, health and food security conditions. Migrants and refugees arriving in Canada through various programs or streams at different times and with varying forms of resettlement experience differing degrees of access to essential resources. Examining the specific vulnerabilities of distinct groups within the migrant population is crucial for generating evidence-based policies that address their unique challenges and promote equitable access to food and other critical resources. It is also important to study how the food practices of migrants in the pandemic reinforced or reshaped their cultural or ethnic values and their connections with these values. Food is as a key cultural marker, connecting individuals to their traditions and identities. For many refugees, disruptions in food practices were not merely a logistical inconvenience but a profound source of emotional and cultural disconnection. Addressing this requires policy measures beyond food provision to include culturally tailored support systems that respect and preserve these practices.

For migrants, disruptions caused by the pandemic, such as limited access to culturally appropriate foods, may have challenged their ability to maintain these connections, forcing them to adapt their practices. Exploring this issue provides insights into the resilience of cultural practices under crisis and the role of food in fostering identity, emotional well-being, and community solidarity. In this light, culturally sensitive policy interventions must prioritize immediate food security needs and the long-term integration of refugees into local food systems, fostering inclusive, equitable communities. As Steeves et al. (2023) noted, embedding cultural sensitivity into food systems policies not only enhances food security outcomes but also strengthens the broader social fabric by ensuring that refugees feel a sense of belonging in their host communities.

# Acknowledgements

We thank the Canadian Institutes of Health Research (CIHR) for funding this study. We are grateful to our research participants whose insights and experiences have greatly enriched this study. We also thank Rana Mohammad and Neela Hassan for their support with data collection.

## References

- Abji, S., Pintin-Perez, M., & Bhuyan, R. (2020). In Canada, non-status women are being left behind: Non-status women remain largely invisible in the COVID-19 public health response and emergency support programs. At: https://www.opendemocracy.net/en/pandemic-border/ canada-non-status-women-are-being-left-behind/.
- Ahmed, D., Benavente, P., & Diaz, E. (2023). Food insecurity among international migrants during the COVID-19 pandemic: A scoping review. *International Journal of Environmental Research and Public Health*, 20(7), 5273.
- Ahmed, Z., Crush, J., Owuor, S. & Onyango, E. (2024). Refugee migration and urban food security: Somali migrants in Nairobi, Kenya. MiFOOD Paper No. 21, Waterloo.
- Akalu, L., & Wang, H. (2023). Does the female-headed household suffer more than the male-headed from Covid-19 impact on food security? Evidence from Ethiopia. *Journal of Agriculture and Food Research, 12*, 100563.

- Arya, N., Redditt, V., Talavlikar, R., Holland, T., Brindamour, M., Wright, V., ... & Pottie, K. (2021). Caring for refugees and newcomers in the post–COVID-19 era: Evidence review and guidance for FPs and health providers. *Canadian Family Physician*, 67(8), 575-581.
- Banerjee, P., Chacko, S., & Korsha, S. (2022). Toll of the COVID-19 pandemic on the primary caregiver in Yazidi refugee families in Canada: A feminist refugee epistemological analysis. *Studies in Social Justice*, *16*(1), 33-53.
- Bastia, T. (2014). Intersectionality, migration and development. *Progress in Development Studies*, 14(3), 237-248.
- Begho, T. (2022). COVID-19: Ramifications for progress towards the sustainable development goals (SDGs) in Nigeria. In Michie, J. & Sheehan, M. (Eds.) *The Political Economy of Covid-19* (pp. 148-160). London: Routledge.
- Béné, C., Bakker, D., Chavarro, M., Even, B., Melo, J., & Sonneveld, A. (2021). Global assessment of the impacts of COVID-19 on food security. *Global Food Security*, 31, 100575.
- Birchall, J. (2021). Intersectionality and responses to COVID-19. At: https://opendocs.ids.ac.uk/opendocs/ handle/20.500.12413/16545
- Brand, D., Drewes, J., & Campbell, M. (2021). Differentiated outlook to portray secondary cities in South Africa. *AIMS Geosciences*, 7(3), 457-477.
- Bürkner, H. (2012). Intersectionality: How gender studies might inspire the analysis of social inequality among migrants. *Population, Space and Place, 18*(2), 181-195.
- Capodistrias, P., Szulecka, J., Corciolani, M., & Strøm-Andersen, N. (2022). European food banks and COVID-19: Resilience and innovation in times of crisis. *Socio-Economic Planning Sciences*, *82*, 101187.
- Cardwell, K., O'Neill, S., Tyner, B., Broderick, N., O'Brien, K., Smith, S., ... & O'Neill, M. (2022). A rapid review of measures to support people in isolation or quarantine during the COVID-19 pandemic and the effectiveness of such measures. *Reviews in Medical Virology*, *32*(1), e2244.
- Chang, Y. S., Si, Z., Crush, J., Scott, S., & Zhong, T. (2023). Governing for food security during the COVID-19 pandemic in Wuhan and Nanjing, China. *Urban Governance*, *3*(2), 106-115.
- Coates, J., Swindale, A., & Bilinsky, P. 2007. Household Food Insecurity Access Scale (HFIAS) for Measurement of Household Food Access: Indicator Guide (v. 3). Washington, D.C.: FHI 360/FANTA.
- Crenshaw, K. (1994). Mapping the margins: Intersectionality, identity politics, and violence against women of color. In Fineman, M. (Ed.) *The Public Nature of Private Violence* (pp. 93-118). New York: Routledge.
- Crush, J. (2013). Linking food security, migration and development. *International Migration*, *51*(5), 61-75.
- Crush, J., & Ramachandran, S. (2023). Mapping the Linkages Between Food Security, Inequality, Migration, and Development in the Global South. In Crawley, H. & Teye, J. (Eds.) *The Palgrave Handbook of South–South Migration and Inequality* (pp. 567-584). Cham: Springer.

- Dabone, C., Mbagwu, I., Muray, M., Ubangha, L., Kohoun, B., Etowa, E., Nare, H., Kiros, G., & Etowa, J. (2022). Global food insecurity and African, Caribbean, and black (ACB) populations during the COVID-19 pandemic: A rapid review. *Journal of Racial and Ethnic Health Disparities*, 9(2):420-435.
- Davies, S., Eslick, B., Calsado, D., Juanico, C., Oo, Z., Roberts, R., ... & Woyengu, N. (2024). Centering social reproduction during crisis: women's experiences of food insecurity in Myanmar, Papua New Guinea, and the Philippines during the COVID-19 pandemic. *Review of International Political Economy*, 31(2), 535-562.
- Doss, C., Njuki, J., & Mika, H. (2020). The potential intersections of Covid-19, gender and food security in Africa. *Journal of Gender, Agriculture and Food Security*, 5(1), 41-48.
- Easton-Calabria, E., Abadi, D., Gebremedhin, G., & Wood, J. (2022). Urban Refugees and IDPs in Secondary Cities: Case Studies of Crisis Migration, Urbanisation, and Governance. Brussels: Cities Alliance/UNOPS.
- Edmonds, J., & Flahault, A. (2021). Refugees in Canada during the first wave of the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 18(3), 947.
- Enns, C., Owuor, S., Lin, A., Knebelow, N., Fanta, J., Achieng, C., Kolong, W., & Swardh, K. (2024). COVID-19, food insecurity and South Sudanese urban refugees in Nairobi and Nakuru, Kenya. MiFOOD Paper No. 19, Waterloo.
- Esmaeilidouki, A., Rambe, M., Ardestani-Jaafari, A., Li, E., & Marcolin, B. (2023). Food bank operations: review of operation research methods and challenges during COVID-19. *BMC Public Health*, *23*(1), 1783.
- Fang, D., Thomsen, M., & Nayga, R. (2021). The association between food insecurity and mental health during the COVID-19 pandemic. *BMC Public Health*, *21*, 1-8.
- FAO, IFAD, UNICEF, WFP and WHO. (2021). The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all. Rome, FAO.
- FAO. (2024). The State of Food and Agriculture 2024 Valuedriven transformation of agrifood systems. Rome.
- FSIN and Global Network Against Food Crises. (2023). Global Report on Food Crises 2023. At: https://www. fsinplatform.org/global-report-food-crises-2023
- Galiani, S., & Kim, S. (2008). Political centralization and urban primacy. In Costa, D. & Lamoreaux, N. (Eds). Understanding Long-run Economic Growth: Geography, Institutions, and the Knowledge Economy (pp. 121-153). Chicago: University of Chicago Press.
- Gans, H. (2009). First generation decline: downward mobility among refugees and immigrants. *Ethnic and Racial Studies*, *32*(9), 1658-1670.
- Germain, S., & Yong, A. (2020). COVID-19 highlighting inequalities in access to healthcare in England: a case study of ethnic minority and migrant women. *Feminist Legal Studies*, *28*(3), 301-310.

- Gillespie, A., Seff, I., Caron, C., Maglietti, M., Erskine, D., Poulton, C., & Stark, L. (2022). "The pandemic made us stop and think about who we are and what we want:" Using intersectionality to understand migrant and refugee women's experiences of gender-based violence during COVID-19. *BMC Public Health*, *22*(1), 1469.
- Golesorkhi, L. (2023). Health literacy and refugee women during the COVID-19 pandemic: Outlooks for ESL classes. *Refuge*, *39*(1), 1-13.
- Goodall, B. (1987). *The Penguin Dictionary of Human Geography*. London: Penguin.
- Hamedanian, F. (2022). Access to the European labor market for immigrant women in the wake of the COVID pandemic. *World*, *3*(4), 957-978.
- Hamilton, L., Veronis, L., & Walton-Roberts, M. (Eds.). (2020). A National project: Syrian Refugee Resettlement in Canada (Vol. 2). Kingston: McGill-Queen's Press.
- Hanna, T., Hughes, B., Irfan, M., Bohl, D., Solórzano, J., Abidoye, B., ... & Moyer, J. (2024). Sustainable Development Goal attainment in the wake of COVID-19: Simulating an ambitious policy push. Sustainability, 16(8), 3309.
- Hankivsky, O. (2012). Women's health, men's health, and gender and health: Implications of intersectionality. *Social Science & Medicine*, 74(11), 1712-1720.
- Hassen, T., & Bilali, H. (2024). Three years into the pandemic: Insights of the COVID-19 impacts on food security and nutrition in low and middle-income countries. *Heliyon*, *10*(7), e28946.
- Hodos, J. (2007). Globalization and the concept of the second city. *City & Community*, 6(4), 315-333.
- IRCC. (2021). Admissions of permanent residents by province/territory, census division and census subdivision of the intended destination (2020 ranking). At: https:// www.cic.gc.ca/opendatadonneesouvertes/data/IRC-C\_M\_PRadmiss\_0012\_E.xls
- Javaher, N. (2020). Under the neoliberal blanket: Maternal strategies in the resettlement of Yazidi refugees in Calgary. Master's Thesis. University of Calgary.
- Kalbarczyk, A., Aberman, N., van Asperen, B., Morgan, R., Bhutta, Z., Carducci, B., ... & Fabrizio, C. (2022). COVID-19, nutrition, and gender: An evidence-informed approach to gender-responsive policies and programs. *Social Science & Medicine*, *312*, 115364.
- Kar, A., Motoyama, Y., Carrel, A., Miller, H., & Le, H. (2021). COVID-19 exacerbates unequal food access. *Applied Geography*, 134, 102517.
- Karki, K., & Moasun, F. (2023). Vulnerable to Precarity: COVID-19 and the Experience of Difference by Newcomers, Immigrants, and Migrant Workers in Canada. *Molung Educational Frontier, 13*, 132-159.
- Kavian, F., Mehta, K., Willis, E., Mwanri, L., Ward, P., & Booth, S. (2020). Migration, stress and the challenges of accessing food: an exploratory study of the experience of recent Afghan women refugees in Adelaide, Australia. International *Journal of Environmental Research and Public Health*, 17(4), 1379.

- Kong, D., Lu, P., Kozlov, E., & Shelley, M. (2022). Food insecurity and mental health trajectories during the COVID-19 pandemic: longitudinal evidence from a nationally representative survey. *Journal of Health Care for the Poor and Underserved*, 33(3), 1230-1244.
- Lanier, J., & Schumacher, J. (2023). The action of foodbanks and food pantries in central illinois during the COVID-19 pandemic. *Journal of Hunger & Environmental Nutrition*, 18(6), 869-877.
- Larson, E., George, A., Morgan, R., & Poteat, T. (2016). 10 Best resources on... intersectionality with an emphasis on low-and middle-income countries. *Health Policy and Planning*, *31*(8), 964-969.
- Ledraa, T., & Aldegheishem, A. (2023). Does city size affect COVID-19 spread and policy measures? The case of Riyadh Province, Saudi Arabia. *International Review for Spatial Planning and Sustainable Development, 11*(3), 228-243.
- Leone, L., Fleischhacker, S., Anderson-Steeves, B., Harper, K., Winkler, M., Racine, E., ... & Gittelsohn, J. (2020). Healthy food retail during the COVID-19 pandemic: challenges and future directions. *International Journal of Environmental Research and Public Health*, *17*(20), 7397.
- Lightman, N. (2022). Caring during the COVID-19 crisis: Intersectional exclusion of immigrant women health care aides in Canadian long-term care. *Health & Social Care in the Community, 30*(4), p.e1343-e1351.
- Lumley-Sapanski, A. (2021). The survival job trap: explaining refugee employment outcomes in Chicago and the contributing factors. *Journal of Refugee Studies, 34*(2), 2093-2123.
- Mansour R., Liamputtong P. & Arora, A. (2020) Prevalence, determinants, and effects of food insecurity among Middle Eastern and North African migrants and refugees in high- income countries: a systematic review. *International Journal of Environmental Research and Public Health*, 17, 7262.
- Marais, L., & Cloete, J. (2017). The role of secondary cities in managing urbanisation in South Africa. *Development Southern Africa*, *34*(2), 182-195.
- McCall, L. (2005). The complexity of intersectionality. *Signs: Journal of Women in Culture and Society*, *30*(3), 1771-1800.
- Milán, T., & Martens, C. (2023). Venezuelan migration, COVID-19 and food (in)security in urban areas of Ecuador. *Land*, *12*(2), 517.
- Moffat, T., Mohammed, C., & Newbold, K. (2017). Cultural dimensions of food insecurity among immigrants and refugees. *Human Organization*, 76(1), 15-27.
- Mori, K. & Onyango, E. (2023). Intersections of race, the COVID-19 pandemic, and food security in Black identifying households in Canada: A scoping review. *Canadian Food Studies*, *10*(3): 3-34.
- Mousa, S. (2018). Boosting refugee outcomes: evidence from policy, academia, and social innovation. Immigration Policy Lab Working Paper No. 18-01, Stanford.

- Nakhaie, R., Ramos, H., Vosoughi, D., & Baghdadi, O. (2022). Mental health of newcomer refugee and immigrant youth during COVID-19. Canadian Ethnic Studies, 54(1), 1-28.
- Nardon, L., Hari, A., Zhang, H., Hoselton, L. & Kuzhabekova, A. (2022), Skilled immigrant women's career trajectories during the COVID-19 pandemic in Canada. Equality, Diversity and Inclusion, 41(1), 112-128.
- Nash, J. (2008). Re-thinking intersectionality. Feminist Review, 89, 1-15.
- Orjuela-Grimm, M., Deschak, C., Aragon Gama, C., Bhatt Carreño, S., Hoyos, L., Mundo, V., ... & Infante, C. (2022). Migrants on the move and food (in) security: A call for research. Journal of Immigrant and Minority Health, 24, 1318-1327.
- Pendras, M., & Williams, C. (2021). Secondary cities: introduction to a research agenda. In M. Pendras and C. Williams (Eds). Secondary cities: Exploring Uneven Development in Dynamic Urban Regions of the Global North (pp. 1-24). Bristol: Bristol University Press.
- Ramachandran, S., Si, Z., & Dai, D. (2024). COVID-19 Impacts on Food Security of Refugees and Other Vulnerable Populations in Canada. MiFOOD Policy Audit No. 3, Waterloo.
- Rabiah-Mohammed, F., Hamilton, L., Oudshoorn, A., Bakhash, M., Tarraf, R., Arnout, E., ...& Theriault, L. (2022). Syrian refugees' experiences of the pandemic in Canada: Barriers to integration and just solutions. Studies in Social Justice, 16(1), 9-32.
- Rahman, M. & Ruszczyk, H. (2021). The Pandemic and Food Insecurity in Small Cities of the Global South: A Case Study of Noapara in Bangladesh. In Doucet, B., van Melik, R. & Filion, P. (Eds.) Global Reflections on COVID-19 and Urban Inequalities (pp. 83-92). Bristol: Bristol University Press.
- Roberts, B. (2014). Managing Systems of Secondary Cities. Brussels: Cities Alliance/UNOPS.
- Rondinelli, D. (1983). Secondary Cities in Developing Countries: Policies for Diffusing Urbanization. Beverly Hills: Sage.
- Ruszczyk, H., Rahman, M., Bracken, L., & Sudha, S. (2021). Contextualizing the COVID-19 pandemic's impact on food security in two small cities in Bangladesh. Environment and Urbanization, 33(1), 239-254.
- Saccone, D. (2021). Can the COVID-19 pandemic affect the achievement of the 'Zero Hunger' goal? Some preliminary reflections. The European Journal of Health Economics, 22(7), 1025-1038.
- Sahayam, B., & Tiwari, M. (2022). Desperation and panic grief of women migrants during the COVID-19 pandemic. ECS Transactions, 107(1), 10611.
- Shahbaz, P., Haq, S., Khalid, U., & Boz, I. (2022). Gender-based implications of the COVID-19 pandemic on household diet diversity and nutritional security in Pakistan. British Food Journal, 124(3), 951-967.
- Sharma, M. (2020). Conceptualizing the nexus of migration and food security during COVID-19. Journal of Agriculture, Food Systems, and Community Development, 9(4): 181-185.

- Shulla, K., Voigt, B., Cibian, S., Scandone, G., Martinez, E., Nelkovski, F., & Salehi, P. (2021). Effects of COVID-19 on the sustainable development goals (SDGs). Discover Sustainability, 2, 1-19.
- Slater, J., Riediger, N., Pilli, B., Mann, K., Derksen, H., Penner, A. L., & Perchotte, C. (2022). COVID-19: first wave impacts on the charitable food sector in Manitoba, Canada. Canadian Food Studies, 9(3), 17-35.
- Smith, M., & Floro, M. (2020). Food insecurity, gender, and international migration in low-and middle-income countries. Food Policy, 91, 101837.
- Steeves, B., Hollis-Hansen, K., McElrone, M., Nur, H., & Landry, M. (2023). Supporting food and nutrition security Among migrant, immigrant, and refugee populations. Journal of Nutrition Education and Behavior, 55(2), 83-84.
- Stelfox, K., & Newbold, K. (2019). Securing culturally appropriate food for refugee women in Canada: opportunities for research. In Newbold, K. & Wilson, K. (Eds.) A Research Agenda for Migration and Health (pp. 107-127). Cheltenham: Edward Elgar.
- Tarraf, D., Sanou, D., Giroux, I., & Muenstermann, I. (2017). Immigration and food insecurity: the Canadian experience-A literature review. In Muenstermann, I (Ed.) Peoples Movements in the 21st Century-Risks, Challenges and Benefits (pp. 37-46). At: https://www.intechopen.com/chapters/53486
- The Food Bank of Waterloo Region. (2020). 2019-2020 Community Impact Annual Report. At: https://www.thefoodbank.ca/2021/07/covid-19-report-one-year/
- The Food Bank of Waterloo Region. (2021). 2020-2021 Community Impact Annual Report. At: https://www. thefoodbank.ca/wp-content/uploads/2021/11/HR-11752\_Foodbank\_Annualreport\_Digital-1.pdf
- Turan, J., Elafros, M., Logie, C., Banik, S., Turan, B., Crockett, K., ... & Murray, S. (2019). Challenges and opportunities in examining and addressing intersectional stigma and health. BMC Medicine, 17, 1-15.
- Weldon, S. (2008). Intersectionality. In Goertz, G. & Mazur, A. (Eds.) Politics, Gender, and Concepts: Theory and Methodology (pp.193-218). Cambridge: Cambridge University Press.
- Wood, J., Booth, A., Margerison, C., & Worsley, A. (2021). What factors are associated with food security among recently arrived refugees resettling in high-income countries? A scoping review. Public Health Nutrition, 24(13), 4313-4327.
- Zangiabadi, S., Alghalyini, B., Zoubi, F., & Tamim, H. (2024). Effect of food insecurity on depression, anxiety, and stress among resettled Syrian refugees in Ontario. PLOS Global Public Health, 4(3), e0002571.