COVID-19, Food (In)security and Migrant Wellbeing: A Comparative Study of Ecuador, South Africa, and Canada

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Abstract

This paper examines the impacts of the COVID-19 pandemic on food security among migrants and refugees in three cities across the Global North and South: Kitchener-Waterloo, Quito, and Cape Town. Drawing on household survey data, complemented by qualitative insights and policy analysis, it adopts a comparative mixed-methods approach to analyse how pandemic-related disruptions intersected with pre-existing inequalities in labour insertion, migration governance, and social protection systems to generate unequal food insecurity outcomes. We find that food insecurity was widespread across all three contexts, though its severity varied. While migrants in Quito and Cape Town experienced more acute deprivation due to high levels of informality and exclusion from social assistance, the Canadian case shows that stronger social protection systems do not fully shield migrants from precarity. Multivariate analyses for Ecuador and South Africa reveal patterns that complicate common assumptions about vulnerability, including the association between higher education and increased food insecurity, and uneven effects of pandemic-related employment and income shocks. We argue that migrant food insecurity during a crisis reflects structural constraints embedded within unequal socioeconomic structures, migration regimes, and social protection systems, highlighting the need for more nuanced data to understand these dynamics.

Keywords

migration, food insecurity, COVID-19, precarity, Canada, Ecuador, South Africa

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Cover Image

Map displaying the number of confirmed global COVID-19 cases in mid-March 2020. Credit: Clay Banks/Unsplash

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Introduction

When the COVID-19 pandemic emerged, three dynamics quickly became evident: it would slow and profoundly reshape global mobility flows, including migration; its economic impacts would be severe across multiple scales, translating into rising poverty and scarcity and intensifying barriers to access to resources, including food; and, although it posed a health risk to humanity as a whole, its effects were layered onto pre-existing social inequalities (Crush et al., 2021; Herrera, 2021; Martin & Bergmann, 2021; Smith & Dennis, 2020). As a vast body of literature has shown, contagion and containment measures not only disrupted migrants on the move, but also those already living in host societies (Álvarez Velasco, 2021; Crush et al., 2021; Herrera, 2021; Martin & Bergmann, 2021; Ullah et al., 2021). Migrants were disproportionately affected due to pre-existing vulnerabilities, such as their concentration in precarious forms of employment, limited access to social protection, and insecure legal status. Food insecurity and deteriorating well-being became central dimensions of this crisis, revealing the fragility and conditionality of migrant inclusion in host societies, including those with comparatively robust welfare systems.

This paper adopts a comparative perspective to examine the pandemic's impacts on food security and well-being among migrants and refugees in three national contexts: Canada, Ecuador, and South Africa. These cases span the Global North and South and represent distinct migration regimes, welfare systems, and labour market structures. Canada is often characterized as a consolidated immigration country with comparatively extensive social protection, while Ecuador and South Africa have emerged as key regional destinations shaped by crisis-driven and South–South migration, marked by high levels of informality and weaker welfare provision (Herrera & Gómez, 2022; Moyo, 2021; Ramachandran et al., 2022, Vera Espinoza et al., 2021).

Food security provides an analytical lens to the relations between the pandemic and the deepening of migrant precarity across these contexts. Beyond access to food itself, food security reflects broader conditions of economic stability, income, social protection, and household well-being (Ramachandran et al., 2022; Si et al., 2025; Tawodzera & Crush, 2025). Given the disruptions to these domains during the pandemic, and their disproportionate impact on populations experiencing insecure living conditions, we propose that examining food insecurity alongside indicators of wellbeing allows us to capture the economic, health, and sociocultural dimensions of crisis experiences.

This paper builds on survey data collected during the pandemic and in its aftermath, in urban areas in the three countries: Kitchener-Waterloo in Canada, Quito in Ecuador, and Cape Town in South Africa; supplemented by qualitative research and policy analysis conducted as part of our broader research project. While the three contexts differ significantly, they share important commonalities: migrants play a central role in essential and low-paid sectors; they are overrepresented in informal and precarious employment; and their access to social protection is often conditional, partial, or mediated by legal status (Eguiguren et al., 2025; Ramachandran et al., 2022; Si et al., 2025; Tawodzera & Crush, 2025).

The paper advances two main arguments. First, it shows that the pandemic exacerbated food insecurity and undermined well-being among migrants and refugees across all three contexts, though to varying degrees and through mechanisms shaped by pre-existing and pandemic-era conditions of economic insertion, social protection regimes, and migration policies. Second, the paper argues that migrants' experiences during the pandemic cannot be understood in isolation from broader patterns of inequality in host societies. Migrant vulnerability is embedded within wider structures of labour informality and precarity, gendered care relations, racialized exclusion, and uneven access to state support. Our comparative perspective helps to situate migrant food insecurity and well-being within these broader dynamics occurring across North and South.

The paper is structured as follows. The next section outlines pre-pandemic migration patterns, labour market inequalities, and social protection arrangements in the three countries. The third section examines pandemic-era policy responses related to containment measures, social protection, and migration governance. The fourth section describes the research design and data sources. The fifth section presents comparative findings on food insecurity, well-being, and coping strategies, while the following section reports quantitative analyses of the relationships between food insecurity and key demographic and socioeconomic factors affected by COVID-19, including multivariate models for Ecuador and South Africa. The final section discusses the findings by integrating the multivariate results with descriptive and qualitative insights, and the conclusion reflect on their implications for debates on migration, inequality, and crisis governance, and their relevance beyond the pandemic context.

Dynamic Migration Patterns and Unequal Incorporation Before the Pandemic

Our case studies are characterized by dynamic migration patterns that shape them as hubs of regional and global significance. With different histories as host countries, each has a consolidated trajectory of receiving migrants and refugees from diverse origins and backgrounds. Canada stands out as one of the main global destinations for migrants, with a consolidated tradition of labour migration, family reunification, refugee resettlement, and international student recruitment, with immigration playing a central role in economic and demographic strategies (IOM, 2024). Ecuador and South Africa, while hosting lower proportions of international migrants overall, have emerged over the past three decades as important regional destinations, shaped by economic asymmetries, political shifts, and conflict in neighbouring countries (Jokisch, 2023; Moyo, 2021). While these countries differ substantially in terms of welfare

regimes, migration histories, and policies, migrants in all three contexts faced structural vulnerabilities linked to precarious employment, uneven access to rights, and differentiated recognition by the state (Akbar, 2022; Álvarez Velasco, 2020; Etowa & Hyman, 2021; Raihan et al., 2023; Ramachandran et al., 2025; Wilkinson & Garcea, 2017). These pre-existing conditions shaped how the pandemic unfolded for migrant households, particularly in relation to food security, living conditions, and well-being.

To ground this comparative analysis, the paper focuses on the three urban contexts where these migration dynamics converge with labour markets, social protection systems, and food provisioning. Each city occupies a distinct position within national and regional migration systems, while also functioning as an economic and service hub that attracts internal and international migrants. Cape Town and Quito are capital cities and metropolitan centres that combine a developed modern economy and concentration of services and institutions, with a large informal sector. It is estimated that immigrants and refugees in Quito represent about 2.7% of the city's total population (ACNUR, 2022). In contrast, Cape Town is a secondary urban destination, as only 15.9% of immigrants settle in the Western Cape, while Gauteng accounts for 50.2% of the national total (Statistics South Africa, 2025). Kitchener-Waterloo is also a secondary city, with a relatively recent history in attracting newcomers due to its proximity to the Greater Toronto Area (GTA), a dynamic economy based on technology and research, higher education institutions, and service infrastructure for migrants and refugees. As sites where formal and informal labour markets intersect, and where access to housing, services, and food is unevenly structured, these cities provide an appropriate scale for examining how pre-pandemic and pandemic inequalities affected migrants' wellbeing and how national policies and structural conditions are experienced locally.

Intersections Between Mitigation Responses and Migration Governance

This section examines how pandemic mitigation policies intersected with migration governance and social protection frameworks in Canada, Ecuador, and South Africa, shaping migrants' and refugees' livelihoods and food security. While all three countries combined public health containment measures with economic and social policy interventions, the articulation of these responses, and the extent to which migrants were included, varied markedly across contexts. These differences reflect both pre-existing policy frameworks and broader inequalities in states' capacity and willingness to protect precarious populations during crisis situations.

Balancing Containment and Social Relief

Across the three cases, pandemic responses relied heavily on measures to limit mobility and economic activity, including lockdowns, closures of non-essential businesses, curfews, and restrictions on movement. Yet the extent to which these measures were enforced, and the degree to which they were accompanied by income support and employment protection, varied substantially. In South Africa and Ecuador, strict containment measures were implemented early and enforced through policing and, in some cases, military involvement (Crush & Sithole, 2024; Hill et al., 2025). These measures sharply disrupted informal economic activity, upon which a large share of migrant households depended. Limited and fragmented relief measures forced many households to choose between complying with restrictions and securing daily income, exposing them to heightened food insecurity (Crush & Sithole, 2024, 2025; Eguiguren & Martens, 2024).

In contrast, Canada's response combined stringent containment measures with comparatively expansive emergency income support and employment protection policies (Ramachandran et al., 2024). Programmes such as emergency benefits and wage subsidies mitigated income loss for large segments of the population and temporarily expanded the reach of social protection. However, considerable concerns were raised about potential fraud in applications for these programmes and their work-disincentive effects (Koebel et al., 2021). Moreover, the protective effects of these measures were uneven (Gunn et al., 2022). Eligibility requirements related to employment histories, legal status, and household composition meant that some migrants, particularly temporary workers and recent arrivals, faced delays or barriers in accessing support. Across the three countries, differences in pandemic crisis management, particularly in how containment and social relief measures were articulated, led to varying levels of shock among migrant households.

Migration Governance and Border Controls During the Pandemic

Border closures were widely adopted across all three countries, affecting migrants and people on the move in different ways. International travel restrictions disrupted family reunification, visa applications, asylum processes, labour mobility, and access to study programmes, while internal mobility controls affected migrants' ability to seek employment and access services. In Ecuador and South Africa, border closures and administrative disruptions exacerbated existing bottlenecks in migration procedures, leaving many migrants in legal uncertainty or irregular status (Crush & Sithole, 2024, 2025; Eguiguren & Martens, 2024).

In Canada, while borders were formally closed to most non-residents early in the pandemic, exemptions were introduced for workers in sectors deemed essential. These exemptions underscored migrants' central role in sustaining the economy during the pandemic. At the same time, they reinforced a model of conditional inclusion, in which migrants' protection was tied to their economic utility rather than to broader rights-based considerations (Triandafyllidou & Nalbandian, 2020). Delays in processing applications and restrictions on movement also affected migrants already in the country, particularly those navigating transitions between temporary and permanent status (Alrob & Shields, 2022).

These cases illustrate a wider global trend in which the pandemic prompted a re-securitization of borders and mobility, revealing the fragility of migrants' rights in times of crisis. While the specific forms of exclusion varied, migrants' access to protection was often mediated by legal status, employment sector, and administrative discretion, rather than by a more comprehensive understanding of social belonging and pandemic vulnerability.

Migrants, Social Protection, and De Facto Exclusion

A shared feature of crisis responses across contexts was the gap between formal policy design and effective access to social protection. In Ecuador and South Africa, migrants, particularly those with irregular or temporary status, were largely excluded from emergency relief measures, either explicitly or through bureaucratic barriers, including lack of valid documentation, limited access to accurate information, language barriers, and fear of engaging with authorities due to the risk of detention and deportation (Crush & Sithole, 2024; Eguiguren & Martens, 2024; Vera Espinoza et al., 2021). In Canada, migrants were not explicitly excluded from emergency programmes on the basis of legal status. Nevertheless, de facto exclusion occurred through eligibility criteria linked to recent employment, minimum income thresholds, and tax filing requirements (Ramachandran et al., 2024; Si et al., 2025). Migrants with unstable working arrangements or in newly established jobs were more likely to fall outside these criteria. Refugees and recent arrivals also faced challenges related to information access and administrative complexity (Taher et al., 2025).

Across contexts, these dynamics reveal how social protection systems struggled to accommodate the realities of migrant livelihoods during the crisis. Relief measures were often designed on the assumption of stable employment and formal labour-market attachment, which did not reflect the conditions under which many migrants lived and worked. As a result, households most exposed to income loss and food insecurity were frequently those least able to access support.

Methodology and Data

Building on these understandings, this paper adopts a comparative, mixed-methods research design to examine the impacts of the COVID-19 pandemic on food security and well-being among migrants and refugees in three urban contexts: Kitchener-Waterloo (Canada), Quito (Ecuador), and Cape Town (South Africa). The analysis focuses on household survey data, while our discussion also draws on qualitative research and policy analysis conducted as part of the CIHR-funded project. Our comparative approach aims to identify patterns of convergence and divergence in how pandemic-related disruptions intersected with migration, living conditions, and impact migrants' and refugees' food security and well-being. The three cities were selected because they serve as important urban hubs within national and regional migration systems, attracting internal and international migrants who are often concentrated in precarious employment and play key roles in food provisioning and distribution. At the same time, these cities differ markedly in welfare regimes, migration governance frameworks, and labour market structures, enabling comparison across Global North and South contexts.

The primary quantitative data used in this paper come from household surveys conducted with migrant and refugee populations in the three cities between 2021 and 2023. The survey instruments included questions on socio-demographic characteristics, migration status, employment and income, food security, health and well-being, impact of COVID-19, and coping strategies. Food security was measured using standardized instruments adapted to local contexts, while wellbeing was assessed through self-reported measures of health, and perceived changes to food security and household income through time. Although the surveys were designed collaboratively across countries to ensure conceptual alignment, differences in sample size, sampling strategies, and local constraints limit full statistical comparability.

The analysis proceeds in three stages. First, descriptive statistics are used to examine patterns of employment disruption, food insecurity, and well-being across the three urban contexts. This stage highlights similarities and differences in the scale and distribution of pandemic impacts among migrant households. Second, multivariate regression models are employed for the Ecuadorian and South African samples to examine the factors associated with food insecurity and well-being. These models examine the relationship between key outcome variables and explanatory factors, including employment disruption, household composition, legal status, gender, and reported mental health status. Due to differences in survey design and sample size, comparable regression models were not estimated for the Canadian case. Finally, previous findings from the qualitative component of the research, obtained through interviews, Photovoice studies, and ongoing engagement with migrant communities, are used to interpret and contextualize the quantitative findings, particularly in relation to coping strategies, gendered dynamics, and the everyday implications of policy and labour market constraints. This mixed-methods approach allows the paper to situate food insecurity and wellbeing within migrants' broader social and economic impact of COVID-19 and migration contexts across cases.

Comparative Overview of Findings

Across the three cities under study, findings from the surveys, interviews, and Photovoice studies reveal both shared and context-specific dynamics linking migration, pandemic precarity, and food insecurity. Although the surveys were adapted to local contexts and are not fully comparable statistically, several common dimensions allow for a comparative overview.

While drivers of migration differ across contexts, they converge on structural crises and their impacts on livelihoods. In Quito, the economic collapse in Venezuela emerged as a central driver of migration, with food insecurity (hunger,

scarcity) explicitly identified by participants as a tangible manifestation of the crisis (Alfaro & Martens, 2025; Eguiguren et al., 2025). Although migrants in Quito also mentioned economic opportunities as a driver of migration, African migrants in Cape Town emphasized employment prospects and family obligations more clearly as key motivations, though these aspirations were pursued within already unequal and exclusionary urban labour markets (Sithole et al., 2024). In Kitchener-Waterloo, trajectories were shaped more strongly by protection pathways (particularly, refugee sponsorship programs) and longer-term settlement aspirations, yet respondents also carried pre-migration experiences of instability that shaped their vulnerability during the pandemic (Si et al., 2025).

Across cases, the impacts of COVID-19 on employment and income were severe and widely reported. In Cape Town, two-thirds of respondents described their household economic situation as worse or much worse than before the pandemic, reflecting widespread job loss, income reductions, and disruptions in the informal sector (Sithole et al., 2024). In Quito, 95% of surveyed households reported that the pandemic negatively affected their economic situation, with employment loss, reduced hours, and wage cuts particularly pronounced among informal and irregular workers (Eguiguren et al., 2025). In Kitchener-Waterloo, 93.9% of survey respondents reported negative impacts of the pandemic on their households' economic conditions. Although emergency income supports mitigated some immediate effects, migrants experienced employment instability and barriers to accessing stable work, reinforcing pre-existing labour market inequalities (Si et al., 2025).

Remittances constitute a fundamental dimension characterizing transnational household economies across all three cases, though their role and consequences vary. In Cape Town, despite severe income losses, approximately two-thirds of migrants continued to send remittances during the pandemic, albeit less frequently and in smaller amounts, often prioritizing food needs in sending households (Sithole et al., 2024). In Quito, nearly half of households reported sending remittances and indicated a strain in their household budgets as a result, yet close to three-quarters believed they improved recipients' access to food (Eguiguren et al., 2025). In Kitchener-Waterloo, remittance-sending was quite significant, with 76.8% of respondents reporting remittance sending in the last year and 29.3% sending remittances monthly. For specific groups, particularly those supporting family members in contexts of acute crisis, remittance sending highlighted the persistence of transnational obligations (Ahmed & Ali, 2026).

Food insecurity during the pandemic was widespread in all three cities, though its intensity and expression differed. In Cape Town, migrants reported frequent experiences of hunger, meal skipping, and food rationing, closely tied to reduced working hours, loss of work and income, and rising food prices (Sithole et al., 2024, 2025). In Quito, around half of surveyed households experienced moderate to severe food insecurity, with substantial shares reporting reduced meal size and frequency, and episodes of going to bed hungry. In Kitchener-Waterloo, while severe hunger was less prevalent, the majority of migrants still reported various levels of food insecurity linked to employment precarity, high living costs, immobility, and limited access to culturally appropriate food.

Across contexts, households adapted by reducing consumption of higher-cost, protein-rich foods and prioritizing cheaper staples. In Quito, dietary diversity was constrained, with high reliance on carbohydrates and lower consumption of animal protein, fish, and legumes (Alfaro & Martens, 2025; Eguiguren et al., 2025). Similar patterns of reduced dietary quality were observed in Cape Town, where food price inflation and income shocks shaped food choices (Sithole et al., 2024, 2025). Participants in Kitchener-Waterloo also reported compromises in diet quality, though framed more in terms of affordability and access to culturally appropriate food.

Interviews, Photovoice discussions, and informal conversations with participants provide nuance to these dynamics. Among participants in Quito and Kitchener-Waterloo, female caregivers frequently described the responsibility of providing sufficient and nutritious food for family members, particularly children, as a source of ongoing stress (Ahmed & Eguiguren, 2024; Alfaro & Martens, 2025; Eguiguren et al., 2025; Ramachandran et al., 2025). The interruption of institutional supports, including school meal programs in Canada and NGO food-kit distribution in Ecuador, further increased pressures on households, especially on mothers (Alfaro & Martens, 2025; Milán & Martens, 2023; Ramachandran et al., 2025).

Access to informal support through social networks also emerged as an important coping mechanism across all cases, though it was unevenly affected by the pandemic. In Kitchener-Waterloo and Cape Town, participants reported that lockdown measures limited their ability to rely on their social networks, including neighbours, family, and friends, in some cases disrupting collective food-sharing practices (Ahmed & Ali, 2026; Ahmed & Eguiguren, 2024; Ramachandran et al., 2025; Sithole et al., 2025). In contrast, in Quito, despite strict government controls, participants described food exchange practices and support networks that were maintained, with some noting the development of new solidarity ties with local residents (Alfaro & Martens, 2025).

Finally, migrants' perceptions of the impact of migration on food security reveal important contrasts. In Quito, the overwhelming majority perceived migration as having improved their food security relative to conditions in Venezuela, despite persistent food insecurity in the host city. Similarly, in Cape Town, migration was perceived as having positive outcomes for the household's food security, with food insecurity nonetheless remaining acute during the pandemic (Sithole et al., 2024; 2025; Sithole, Dinbabo, et al., 2025). In the case of Kitchener-Waterloo, migration was generally associated with greater stability, as 72% of surveyed households reported that migrating to Canada had improved their household food security, although pandemic disruptions exposed underlying vulnerabilities and uneven integration trajectories (Si et al., 2025).

Assessing the Association between COVID-19 and Food (in)Security in South Africa and Ecuador

Variables

Given the minimum sample size requirements for statistical analysis of food insecurity, the quantitative analysis focuses on migrants in South Africa and Ecuador, as the Kitchener-Waterloo dataset was too small to support robust statistical inference. Food insecurity was measured as a dependent variable using the Household Food Insecurity Access Scale (HFIAS). The HFIAS scale comprises nine questions to assess household food insecurity among migrants. As a standardized scale, the HFIAS measures food access, affordability, utilization, and food stability over a period of four weeks by allocating each household a score between 0 and 27 (Knueppel et al., 2010). However, the HFIAS scale for Ecuador was modified to include only eight questions to adapt to the local context and avoid respondent fatigue. The eight HFIAS items used focused on measuring the frequency of experiencing food insecurity, including food availability, sufficiency, dietary quality and diversity, and meal frequency (Kolog et al., 2023). Due to these adaptations in the Ecuador survey, the present analysis cannot utilize the original FANTA method. In its place, responses to food insecurity questions were coded as "No=0," "Twice=1," "Sometimes (3 to 10 times)=2," and "Often (more than 10 times)=3", and scores were summed up to produce a modified scale ranging from 0 to 13 for Ecuador and 0 to 27 for South Africa, with higher values indicating greater food insecurity.

The independent variables focused on the mental health of migrants; socio-demographic factors such as age, gender of head of household, education, marital status and household size; factors specifically related with migration, such as presence or absence of an authorized migration status, remittance frequency, and sense of belonging; and pandemic-specific variables, namely, the impact of the COVID-19 pandemic on the livelihoods and well-being of migrants in both countries. For example, respondents were asked if COVID affected their incomes, employment, and housing status. These variables were chosen on the one hand, according to comparability criteria, selecting the most comparable variables across surveys; and on the other hand, prioritizing factors well known to be associated with food insecurity in the literature, such as gender in household headship. Table 1 illustrates the measurements and coding of these variables that we employed for the comparative statistical analyses.

Table 1: Summary of Key Variables and Measurement

Variable category	Variable	Category/measurement/code
Dependent variable	Food insecurity (HFIAS, modified)	0=Food secure 1=Mildly food insecure 2=Moderately food insecure 3=Severely food insecure
Independent variables	Mental health	0= Good 1=Satisfactory 2=Poor
	Age	0=19-35 1=36-50 2=51+
	Gender of household head	0=Male 1=Female
	Education	0=No formal education 1=Primary school 2=High school 3=Tertiary
	Marital status	0=Married 1=Unmarried 2=Divorced/Widowed
	Household size	0=1-3 1=4-6 2=7+
	Remittance frequency	0=Never 1=Frequently 2=Rarely
	Sense of belonging	0=Strong 1=Weak
	Legal immigration status	0=No 1=Yes

Independent variables (cont.)	COVID-19 affected employment	0=No 1=Yes
	COVID-19 affected income	0=No 1=Yes
	COVID-19 affected eviction	0=No 1=Yes
	Location of residence before migration	0=Rural setting 1=Urban setting

Data Analysis

The study employed descriptive and inferential statistical techniques to analyze the impact of COVID-19 on food insecurity and the health of migrants in Ecuador and South Africa. Data was analysed using a three-stage approach (i.e., univariate, bivariate and multivariate techniques). We initiated our analysis with a univariate assessment to outline the distribution of the sample among the variables. This was followed by bivariate logistic regression to examine the associations between the dependent variable (food insecurity) and each independent variable. The binary regression coefficients are expressed as odds ratios, which reflect the probability of experiencing food insecurity. An odds ratio exceeding one (OR>1) suggests an increased likelihood of food insecurity, while an odds ratio below one (OR<1) indicates a decreased likelihood (Akaike, 1998). To ensure the robustness of our analysis, we validated the linearity assumption for predictors and determined the continuous presence of multicollinearity. Additionally, model reliability was gauged using the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC), both of which signalled a good fit in the multivariate analysis. Table 2 presents descriptive statistics for the variables in the South Africa and Ecuador surveys.

Table 2: Descriptive Statistics of Immigrant Food Insecurity, Socio-Demographic Characteristics, and Pandemic-Related Impacts in South Africa and Ecuador

Variable category	Variable	South Africa sample (n=845)	Ecuador sample (n=789)
		Frequency (%)	Frequency (%)
Dependent variable	Food insecurity (HFIAS)	6.29 (mean)	7.94 (mean)
	Food secure	285 (33.9%)	213 (27.0%)
	Mildly food insecure	226 (26.8%)	304 (38.6%)
	Moderately food insecure	163 (19.4%)	270 (34.3%)
	Severely food insecure	168 (20.0%)	1 (0.1%)
Independent variables	Mental health		
	Good	393 (46.9%)	597 (75.8%)
	Satisfactory	303 (36.2%)	147 (18.7%)
	Poor	142 (17.0%)	44 (5.6%)
	Age		
	19-35	66 (25.5%)	255 (32.4%)
	36-50	153 (59.1%)	505 (65.0%)
	51+	40 (15.4%)	29 (3.7%)
	Gender of household head		
	Male	386 (45.8%)	333 (42.3%)
	Female	456 (54.2%)	455 (57.7%)
	Education		
	No formal education	42 (5.0%)	4 (0.5%)
	Primary school	52 (6.2%)	49 (6.2%)
	High school	376 (44.7%)	416 (52.8%)
	Tertiary	371 (44.1%)	319 (40.5%)
	Marital status		
	Married	409 (48.5%)	371 (47.1%)
	Unmarried	269 (31.9%)	394 (50.0%)
	Divorced/widowed	165 (19.6%)	23 (2.9%)

Independent variables (cont.)	Household size		
	1-3	518 (70.8%)	467 (59.3%)
	4-6	194 (26.5 %)	285 (36.2%)
	7+	20 (2.7%)	36 (4.6%)
	Remittance frequency		
	Never	245 (30.1%)	173 (22.0%)
	Frequently	493 (60.6%)	44 (5.6 %)
	Rarely	75 (9.2%)	571 (72.5%)
	Sense of belonging		
	Strong	566 (68.2%)	561 (71.2%)
	Weak	264 (31.8%)	227 (28.8%)
	Legal immigration status		
	Yes	616 (74.0%)	484 (61.4%)
	No	216 (26.0)	304 (38.6%)
	COVID-19 affected employment		
	No	292 (35.4%)	195 (24.8%)
	Yes	532 (64.6%)	593 (75.3%)
	COVID-19 affected income		
	No	232 (27.8%)	69 (8.8%)
	Yes	603 (72.2%)	719 (91.2%)
	COVID-19 affected eviction		
	No	532 (36.1%)	354 (44.9%)
	Yes	535 (63.9%)	434 (55.1%)
	Location of residence before migration		
	Rural setting	225 (26.7%)	316 (40.1%)
	Urban setting	619 (73.3%)	472 (59.9%)
Percentages are based on valid responses; totals may vary due to item non-response			

Variations in Migrant Food Insecurity in South Africa and Ecuador

The univariate results, presented in Table 2, show the distribution of the sample in Ecuador and South Africa. The mean scores on the modified Household Food Insecurity Access Scale (HFIAS) were 6.29 in South Africa and 7.94 in Ecuador, suggesting a higher level of food insecurity in Ecuador. This, however, contrasts with the much higher percentage of severely food-insecure households in South Africa. Following Coates et al. (2007), food security responses were summed up to generate a total household food insecurity score. Due to survey design variations, the scale ranged from 0 -13 for the Ecuador cohort and 0 - 27 for the South Africa cohort. While the incomplete 8-item module used in Ecuador precludes a direct comparison of absolute mean scores between the two countries, the internal validity of each scale allows for a robust comparative analysis of the determinants of food insecurity, as shown in the subsequent sessions.

These scores were used to categorize households into four household food insecurity access groups: food secure (code = 0), moderately food insecure (code = 1), severely food insecure (code = 2), and food insecure (code = 3) based on the distribution of responses within each specific context. Due to the incomplete survey of standard HFIAS in Ecuador, the standard categorization method of the FANTA approach was not used. It therefore limits our ability to pool the data into a single model or compare the food insecurity prevalence rates across the two sites. However, the coefficients are estimated relative to the specific scale of each country, ensuring the integrity of the findings regarding the drivers of food insecurity for migrant populations.

Using this method, approximately 27.0% of migrants in Ecuador were classified as food secure, compared to 33.9% among migrants in South Africa. However, only 0.1% of migrants in Ecuador were classified as severely food insecure, compared to 20% in South Africa. Overall, 75% of migrants in Ecuador considered themselves in good mental health, compared to 46% in South Africa. In relation to gender, female-headed households dominated the sample in South Africa (54.2%) and Ecuador (57.7%). The data also reveal that a significant number of migrants had at least a high school education in both South Africa and Ecuador. Whilst the majority of migrants surveyed in South Africa (60.6%) send remittances back home regularly, the majority (72.5%) of migrants in the Ecuador survey do not. Finally, the majority of migrants in South Africa (74.0%) and Ecuador (61.4%) had legal status, compared to 26.0% in South Africa and 38.6% in Ecuador who did not possess any migration documents.

Bivariate Results

Table 3 presents the results of the bivariate logistic regression analysis examining associations between food insecurity and selected socio-demographic, migration-related, and COVID-19-related variables among migrants living in South Africa and Ecuador. Gender of the household head was significantly associated with food insecurity among migrants in Ecuador. Female-headed households were more likely to experience food insecurity (OR=1.561, p<0.001) compared to male-headed households, while no statistically significant association was observed in the South African sample. Educational attainment was significantly associated with food insecurity among migrants in South Africa. Particularly, migrants with high school (OR=5.369, p<0.001) and tertiary (OR=2.959, p<0.001) education were more likely to experience food insecurity during the pandemic compared to their less educated counterparts.

Table 3: Bivariate Logistic Regression of Migrant Food Insecurity, Socio-Demographic Characteristics, and Pandemic-Related Impacts in South Africa and Ecuador

Predictors	Bivariate ordered logistic regression			
	South Africa		Ecuador	
	OR±SE	95% CI	OR±SE	95% CI
Age (ref: 19-35)				
36-50	0.812±0.218	0.478-1.376	0.834±0.124	0.622-1.118
51+	1.246±0.449	0.614-2.526	0.839±0.291	0.424-1.658
Gender of household head (ref: male)				
Female	0.904±0.112	0.708-1.153	1.561±0.209***	1.201-2.030
Education (ref: no formal education)				
Primary school	1.934±0.796	0.863-4.335	0.293±0.297	0.040-2.136
High school	5.369±0.777***	2.805-10.274	0.494±0.486	0.072-3.394
Tertiary	2.959±0.975***	1.551-5.647	0.956±0.941	0.138-6.581
Marital status (ref: married)				
Unmarried	1.234±0.174	0.935-1.630	1.240±0.165	0.955-1.611
Divorced/widowed	1.510±0.253	1.086-2.099	0.522±0.217	0.230-1.180
Household size (ref: 1-3)				
4-6	1.197±0.182	0.888-1.615	0.463±0.064***	0.352-0.609
7+	0.230±0.110***	0.089-0.592	0.316±0.099***	0.230-1.180
Mental health (ref: good)				
Satisfactory	3.191±0.449***	2.421-4.207	0.469±0.077***	0.340-0.647
Poor	0.997±0.192	0.682-1.456	0.309±0.095***	0.180-0.532
Remittance frequency (ref: never)				
Frequently	0.820±0.117	0.619-1.086	2.082±0.667***	1.111-3.901
Rarely	0.780± 0.193	0.479-1.269	0.913±0.147	0.666-1.253
Sense of belonging (ref: strong)				
Weak	1.316±0.181***	1.005-1.725	0.882±0.128	0.662-1.174
Legal Immigrant status (ref: yes)				
No	2.479±0.356***	1.870-3.286	0.435±0.059***	0.333-0.570
COVID-19 affected employment (ref: no)				
Yes	2.216±0.300***	1.700-2.890	0.692±0.106***	0.512-0.935
COVID-19 affected income (ref: no)				
Yes	2.110±0.304***	1.591-2.800	0.162±.0454***	0.093-0.280
COVID-19 affected eviction (ref: no)				
Yes	4.390±0.616***	3.334-5.781	0.426±0.057***	0.327-0.556
Location of residence before migration (ref: rural)				
Urban setting	0.381±0.117***	0.208-0.697	1.838±0.249***	1.409-2.398

*p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001, Odds Ratio = OR, Standard Error = SE, Confidence Interval =CI, Dependent Variable (food insecurity)*

The results also reveal that household size was significantly associated with food insecurity in both countries. For instance, in Ecuador, households with members between 4 and 6 (OR = 0.463, p<0.001) were less likely to be food insecure. Similarly, the odds of food insecurity among households of 7 or more members were lower in South Africa (OR=0.230, p<0.001) and Ecuador (OR=0.316, p<0.001) compared to smaller households. Interestingly, mental health was significantly associated with food insecurity in South Africa and Ecuador. Migrants with satisfactory mental health were more likely to be food insecure in South Africa (OR=3.191, p<0.001) than those reporting good mental health, while poor mental health was not significantly associated with food insecurity. In Ecuador, both satisfactory (OR=0.469, p<0.001) and poor mental health were associated with lower odds of food insecurity relative to good mental health.

We observe some significant associations between factors related to migration in both countries. Migrants in South Africa who reported a weak sense of belonging (OR=1.316, p<0.001) to their neighbourhood were significantly more likely to experience food insecurity, compared to those with a strong sense of belonging. We did not find any significant association between sense of belonging to the city or country of residence, and, similarly, in the case of Ecuador, there is no association between food insecurity and sense of belonging. Immigration status was statistically significant with food insecurity in both countries. While migrants with no legal status in South Africa showed a higher likelihood of being food insecure (OR=2.479, p<0.001), their counterparts in Ecuador were less likely to be food insecure (OR=0.435, p<0.001).

Regarding remittance practices, the frequency of sending remittances was significantly associated with food insecurity among migrants in Ecuador. Particularly, those who remit frequently to their relatives back home were more likely (OR=2.082, p<0.001) to experience food insecurity compared to those who never send remittances. In South Africa, we did not find statistically significant associations between remittance practices and food insecurity.

Impacts of COVID-19 on households were also associated with food insecurity in both countries. Migrants who lost their jobs as a result of the pandemic were more likely to face food insecurity in South Africa (OR= 2.216, p<0.001) but less likely to be food insecure in Ecuador (OR=0.692, p<0.001). A similar pattern was revealed with pandemic shocks on income and housing situation. Migrants in South Africa whose incomes were affected by the pandemic (OR= 2.110, p<0.001) or who faced eviction in this context (OR = 4.390, p<0.001) were more likely to be food insecure. However, in Ecuador, income disruption (OR= 0.162, p<0.001) and eviction (OR = 0.462, p<0.001) were associated with lower odds of food insecurity.

Finally, the location of residence before migration was significantly associated with food insecurity among migrants in South Africa and Ecuador. Migrants in Ecuador who previously resided in urban areas (OR = 1.838, p<0.001) were more likely to be food insecure compared to those from rural areas, whereas the opposite association was observed in South Africa, where previous location of residence in an urban setting was associated with lower odds of food insecurity (OR = 0.381, p<0.001).

Comparative Results of Multivariate Logistic Regression Analysis of Food Insecurity Predictors for Migrants in South Africa and Ecuador during COVID-19

Table 4 presents an analysis of food insecurity among migrants in South Africa and Ecuador during the COVID-19 pandemic. The results show that age was associated with food insecurity among migrants in Ecuador. Particularly, the middle-aged (aged between 36 and 50) cohort showed a lower likelihood of experiencing food insecurity (OR=0.505, p<0.001) compared to younger migrants. However, no association between age and food security was observed in the South African sample.

Mental health was associated with food insecurity in both countries. The odds of experiencing food insecurity among migrants with poor mental health were lower in Ecuador (OR=0.485, p<0.001) and South Africa (OR=0.491, p<0.001). However, respondents who reported stable/satisfactory mental health were more likely to experience food insecurity in South Africa. Additionally, the gender of the household head was found to be associated with food insecurity. Female-headed households were more likely to be food insecure in Ecuador (OR = 1.492, p < 0.001) compared to male-headed households. In South Africa, gender was not significantly associated with food insecurity in the multivariate model.

Household size was also significantly associated with food insecurity in both South Africa and Ecuador. Medium-sized households (members between 4-6) were more likely to report food insecurity in both Ecuador (OR=0.456, p<0.001) and South Africa (OR=2.035, p<0.001). The interaction between immigration status and food insecurity was significant in both South Africa and Ecuador. Migrants with no legal status in South Africa were more likely to be food insecure (OR = 2.732, p<0.001) compared to their counterparts in Ecuador (OR = 0.783, p<0.001). Remarkably, migrants in Ecuador whose incomes were affected by the pandemic had lower odds of experiencing food insecurity (OR = 0.442, p<0.001). Location of residence before migration was significantly associated with food insecurity among migrants in Ecuador. Those who previously resided in urban areas (OR = 1.228, p<0.001) were more likely to be food insecure than those who lived in rural areas and their counterparts in South Africa.

Table 4: Comparative Logistic Regression Analysis Predicting Food Insecurity among Migrants in South Africa and Ecuador during the COVID-19 Pandemic				
Predictors	**Multivariate ordered logistic regression**			
	South Africa		**Ecuador**	
	OR±SE	**95% CI**	**OR±SE**	**95% CI**
Age (ref: 19-35)				
36-50	0.808±0.270	0.419-1.559	0.505±0.147***	0.285-0.896
51+	1.030±0.592	0.333-3.180	0.783±0.401	0.286-2.139
Gender (ref: male)				
Female	0.799±0.427	0.280-2.2796	1.492±0.291***	1.018-2.188
Education (ref: no formal education)				
Primary school	0.605±0.509	0.116-3.151	3.612±5.459	0.186-69.829
High school	4.423±2.913	1.216-16.084	5.420±7.723	0.331-88.502
Tertiary	2.020±1.336	0.552-7.385	9.937±14.193	0.604-163.289
Marital status (ref: married)				
Unmarried	0.747±0.329	0.315-1.774	1.037±0.230	0.671-1.602
Divorced/widowed	3.077±1.561	1.138-8.321	0.631±0.313	0.239-1.669
Household size (ref: 1-3)				
4-6	2.035±0.722**	1.015-4.081	0.456±0.097***	0.300-0.692
7+	0.527±0.510	0.079-3.513	0.464±0.201	0.198-1.086
Mental health				
Satisfactory	2.988±0.428***	2.256-3.950	0.798±0.116	0.599-1.062
Poor	0.485±0.109***	0.311-0.756	0.491±0.075***	0.362-0.664
Remittance frequency (ref: never)				
Frequently	1.166±0.397	0.598-0.273	1.026±0.429	0.452-2.329
Rarely	0.954±0.458	0.372- 2.447	0.695±0.153	0.450-1.072
Sense of belonging (ref: strong)				
Weak	0.742±0.250	0.383-1.437	1.008±0.203	0.679-1.497
Legal immigration status (ref: yes)				
No	2.732±1.330***	1.052-7.095	0.783±0.233***	0.437-1.403
COVID-19 affected employment (ref: no)				
Yes	0.910±0.270	1.507-1.631	0.692±0.159	0.441-1.088
COVID-19 affected income (ref: no)				
Yes	1.028±0.375	0.502-2.104	0.442±0.161***	0.216-0.903
COVID-19 affected eviction (ref: no)				
Yes	1.809±0.547**	1.000-3.272	0.740±0.143	0.506-1.081
Location of residence before migration (ref: rural)				
Urban setting	0.776±0.604	0.168-3.574	1.228±0.258***	0.813-1.855
Log	-238.55249			
Pseudo R^2	0.0995			
AIC	523.105			
BIC	599.3087			

*p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001, Odds Ratio = OR, Standard Error = SE, Confidence Interval =CI, Dependent Variable (food insecurity)*

Discussion

The survey findings reveal that food insecurity among migrant households during the COVID-19 pandemic was widespread across all three urban contexts and shaped by intersecting economic, household, and psychosocial factors. The analysis also surfaces patterns that challenge common assumptions about vulnerability, calling for closer attention to how food insecurity is produced within migrant populations and linked to the multiple factors that generate precarity.

Across the cities, our descriptive analysis and qualitative findings show associations between employment disruption and food insecurity. Migrant households that experienced job loss or substantial income reduction were more likely to report difficulties accessing adequate food. This pattern was particularly reported in Quito and Cape Town, where informality is widespread. In the absence of protection against economic shocks, job and income losses, or other disruptions, food insecurity can rapidly set in. In Kitchener-Waterloo, while emergency income support mitigated the situation for some households, food insecurity nonetheless emerged among migrants facing unstable employment, limited access to social benefits, and costs of living rising faster than available support. However, our findings challenge assumptions of a linear causal effect between pandemic impacts on employment and food insecurity.

The regression analyses for Ecuador and South Africa introduce nuance and reveal important cross-context differences. In South Africa, COVID-19-related employment or income disruptions were not significantly associated with food insecurity. This finding likely reflects the high prevalence of pre-existing employment precarity, which limited the marginal impact of pandemic-related employment shocks. In addition, employment disruption alone may be insufficient to explain variation in food insecurity because of the significance of multiple other intersecting constraints or mitigating factors. In Ecuador, for instance, income losses related to the pandemic were significantly associated with food insecurity, though in an inverse direction, suggesting the presence of buffering mechanisms that merit closer examination.

Similarly, interviews and Photovoice discussions show that while employment disruptions clearly threatened food security, it was the cumulative effects of multiple disruptions—affecting income, housing, health, family dynamics, mobility, and institutional support—interacting with pre-existing trajectories of unequal integration that produced distinct patterns of vulnerability. Household composition also emerged as a significant factor. While larger households and those with dependents faced heightened risks of food insecurity due to increased care responsibilities during periods of income instability, shared resources and multiple income earners within larger households may also alleviate vulnerability, as the case of Quito suggests (Eguiguren et al., 2025). This non-linear relationship highlights the dual and context-dependent role of household composition and underscores the need for more nuanced and in-depth analysis of intra-household dynamics in shaping food insecurity outcomes.

At the same time, the regression results reveal several findings that are less intuitive and warrant closer scrutiny. One such pattern is the association between higher levels of education and an increased likelihood of food insecurity in both Quito and Cape Town. This finding complicates the common assumption that education serves as a protective factor against economic vulnerability. This pattern appears to point to structural barriers in the labour market and processes of downward mobility. Migrants with higher educational attainment may have been disproportionately concentrated in sectors that were heavily disrupted during the pandemic, or may have faced greater barriers to accessing informal survival strategies typically available to less-educated workers. In contexts where formal employment opportunities are scarce, migrants' credentials are undervalued or unrecognized, or strict immigration policies become barriers to accessing visas, work permits, or permanent residence; higher education does not necessarily translate into more secure or better-paid employment, and may instead fail to protect against food insecurity.

Gendered dynamics also emerge more clearly when examining the regression results alongside the descriptive and qualitative findings. While women's higher levels of food-related stress and lower wellbeing were evident across cities in our descriptive analyses and qualitative findings, the multivariate analysis suggests that gendered dynamics of food insecurity are contextually dependent, and do not necessarily present in a direct association between household headship and food insecurity indicators. Thus, in Quito, female heads of household were more likely to experience food insecurity, while in Cape Town, gender differences in household headship did not emerge as a food insecurity predictor. These patterns caution against treating gender as a uniform determinant and highlight the importance of situating gendered vulnerability within specific household, socioeconomic, and migration contexts.

Another notable finding concerns the strong association between indicators of mental wellbeing and food insecurity. Across both Ecuador and South Africa, migrants reporting poor mental health were significantly less likely to experience food insecurity. Typically, mental health problems and food insecurity are closely linked through multiple reinforcing pathways and the relationship is often bidirectional. Yet, this counter-intuitive result should be interpreted with caution, as it may be associated with reporting dynamics, or access to support or coping strategies not captured by our surveys. We should also acknowledge that poor mental health is measured at the individual level, while food insecurity is a household-level outcome. Individual distress does not necessarily translate into household food insecurity.

Factors associated with migration status, while less consistently predictive in the models, nonetheless play an important contextual role. The descriptive evidence shows

that legal status intersects with labour market opportunities and eligibility for assistance mechanisms, reinforcing other forms of precarity rather than operating in isolation. A more in-depth examination of the interactions between migration status within national migration systems, precarious employment, and food insecurity may help explain why legal status effects may vary in quantitative models. Further qualitative research would benefit existing knowledge about the role of migration status in relation to other dimensions of migrants' lived experiences.

Overall, these findings suggest that migrant vulnerability during the pandemic cannot be adequately captured through singular markers such as legal status, education, or gender alone. Instead, food insecurity emerges from the interaction of economic disruption, increased household responsibilities, exacerbation of pre-existing vulnerabilities, and uneven access to support and protection mechanisms. The fact that higher education was associated with greater food insecurity, underscores the need to move beyond linear or deficit-based explanations of vulnerability.

The comparative perspective further reveals that while the intensity of hardship differed across Kitchener-Waterloo, Quito, and Cape Town, the underlying mechanisms shaping migrants' and refugees' food insecurity converge in significant ways. Migrants' experiences across North and South were structured by precarious incorporation into urban economies and by social protection systems that proved restrictive in crisis conditions. Differences across contexts lie less in the presence or absence of vulnerability than in conditions shaped by migration policy trajectories and relative inclusion/exclusion from social protection and rights.

Conclusion

This paper examined how the COVID-19 pandemic affected food security and wellbeing among migrant and refugee households in three urban contexts across the Global North and South: Kitchener-Waterloo, Quito, and Cape Town. Drawing on mixed-methods data, the analysis showed that food insecurity was widespread across all three cities and closely linked to employment disruption, income instability, household composition, gender dynamics, and mental health. While the severity and expression of hardship varied across contexts, migrants' vulnerability was consistently shaped by their position within precarious urban labour markets and by uneven access to social protection.

The comparative findings challenge simple distinctions between the Global North and South in explaining migrant realities during the crisis. Although migrants in Quito and Cape Town experienced more acute deprivation due to high levels of informality and exclusion from social assistance, the Canadian case demonstrates that stronger welfare systems and documentation do not fully shield migrants from food insecurity and increased precarity. This points to the structural constraints that continue to limit migrant inclusion within existing migration systems, while showing the central role of food insecurity in revealing broader conditions of migrant precarity.

By integrating descriptive and multivariate analysis, the paper also highlights patterns that complicate common assumptions about vulnerability. The association between higher educational attainment and increased food insecurity, and the varying links between pandemic economic impacts and food insecurity, underscore the importance of labour market inequalities and barriers faced by migrants. Similarly, the heterogeneous associations between gendered household dynamics and food security conditions call for more complex approaches to a gendered analysis of food insecurity. These findings suggest that migrant vulnerability cannot be understood through singular indicators such as education, legal status, or gender of head of household alone, but must be analysed through the interaction of economic, gender, and institutional factors. They further underscore the need to refine intersectional approaches within mixed-method research, as a necessary step toward understanding the intersecting- and at times contradictory-dimensions of inequality that shape migrants' and refugees' experiences of precarity.

Our analytical focus on the pandemic's impacts on migrants' and refugees' food security exposed deeper limitations in these populations' access to various dimensions of human security and social membership. Beyond the pandemic context, these findings have broader relevance for understanding how future economic, health, or environmental shocks are likely to affect migrants and other precarious urban populations, and for informing more inclusive approaches to social protection and crisis response. The study points to the need for future studies that deepen our understanding of food (in)security tied to complex urban mobilities, particularly during crises.

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