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BRIEF COMMUNICATION

High Prevalence of Food Insecurity and Factors Associated with Haitian Immigrants in Southern Chile

Eduard Maury-Sintjago[1] · Alejandra Rodríguez-Fernández[1,2] · Danny E. García[3] · Julio Parra-Flores[1]

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Abstract
The objective was to determine the association between sociodemographic factors and food insecurity (FI) in Haitian immigrants in southern Chile. An analytical cross-sectional design was used. The sample consisted of Haitian immigrants residing in Southern Chile, who were recruited from community centers and completed a sociodemographic questionnaire and the Latin-American and Caribbean Food Security Scale. Multivariable analyses were performed to identify factors associated with FI. FI prevalence in the 234 participants was 78%; 60% had severe FI. Having children (OR 3.6; 95% CI 1.6–7.4), limited Spanish proficiency (OR 3.5; 95% CI 1.8–7.3), no access to basic services (OR 2.8; 95% CI 1.2–6.4), and not being a legal permanent resident (OR 2.4; 95% CI 1.1–6.1) were associated with significantly higher odds of FI. Over three-quarters of Haitian immigrants in southern Chile suffer from FI. Tailored intervention strategies are needed to address this major public-health issue, with a special focus on those at highest risk, including families with children, and those with limited Spanish proficiency, no access to basic services, and without legal permanent resident status.

Keywords Food insecurity · Immigrants · Haitians · Chile

Background

One of the great public health problems related to immigration is access to healthy, balanced, sufficient, and timely food. Sociocultural and climatic changes, community eating habits, language, the acculturation process, and the itself as well as the purchasing power of these individuals constitute risk factors for food insecurity (FI) [1].

Addressing FI is a critical component of a healthy and productive population. The risk of FI for immigrants and certain racial/ethnic groups can be up to 2-fold [2]. Sanou et al. also reported that low socioeconomic status plays an important role in diet and health transitions among immigrants [3].

Immigration in Chile has increased sharply in the last few years. There has been a 400% increase in Chile's immigrant population since 2005. In 2017, a total of 355,355 immigrants came to Chile, twice the number recorded in 2016. Peru (21.2%) and Colombia (17.7%) lead visa applications, whereas Haiti ranks third, at 16%. Haitians however were the immigrant group that increased the most between 2014 and 2017, from 1649 to 73,098 (4433%), followed by Venezuela (1057%) and Colombia (507%). Permanent residency of Haitian immigrants increased 162% between 2013 and 2014. According to official data, 64% of immigrants are concentrated in the city of Santiago and slightly more than 4.5% in southern Chile; these statistics do not account for higher variation caused by the important population dynamics of internal migration, which prompts the search for better living conditions [4].

Furthermore, work precariousness and racism are important problems that affect a large number of immigrants in Chile [5]. This has led Haitian immigrants to seek better work opportunities in south-central Chile, where a greater demand for labor is concentrated in the strong export and agricultural industries in of these zones.

✉ Eduard Maury-Sintjago
emaury@ubiobio.cl

[1] Departamento de Nutrición y Salud Pública, Universidad del Bío-Bío, Chillán, Ñuble, Chile

[2] Facultad de Ciencias de la Salud, Universidad Adventista de Chile, Chillán, Chile

[3] Facultad de Ciencias, Universidad Católica de la Santísima Concepción, Concepción, Bío-Bío, Chile

Therefore, the study objective was to determine the prevalence of FI among Haitian immigrants in southern Chile, and factors associated with FI in this population.

Methods

This was a cross-sectional study consisting of a convenience sample of subjects who voluntarily consented to participate. Participants were recruited with the help of key informants in religious and community centers where Haitian immigrants attended free Spanish language classes. Study participants resided in the Ñuble, Biobío, and Araucanía Regions.

Data collection included a survey in "kreyòl ayisyen" (translated by a certified translator) in which sociodemographic aspects and FI were evaluated by the Latin American and Caribbean Food Security Scale (ELCSA) [6]. The survey was administered at home, in the workplace, and in community centers.

The sociodemographic survey included 55 questions addressing eight domains: personal information; family unit; education; work; income; health; housing conditions; and participation in social organizations (neighborhood, religious, trade union and/or migrant). In addition, respondents were asked about their Spanish language proficiency. Participants reported if their Spanish proficiency was null, basic (rudimentary skills), good (can maintain a conversation), and very good (proficient). Both null and basic were considered as limited Spanish proficiency.

On the other hand, the ELCSA consisted of 15 yes/no questions. As well as "does not know/no response". Eight questions were addressed by adults and seven were exclusively for children and teenagers less than 18 years old [6]. ELCSA consist of three food security categories: 1. low (anxiety and worry about food supplies), 2. moderate (household budget must be adjusted, which affects the quality of the diet), and 3. severe (quality and quantity of food consumed in the household is restricted) [6].

Written informed consent was obtained from all participants, and the study protocol was approved by the Bioethics and Biosecurity Committee of the Universidad del Bío-Bío.

Bivariable analyses were conducted using the Chi square and Pearson tests. A multivariable logistic regression analysis was performed to identify factors associated with FI. It consisted of a stepwise model that included all significant variables in the bivariable analysis. The alpha-to-enter was 0.05. All analyses were performed with STATA© 15.0.

Results

A total of 255 potential subjects were approached; 21 declined participation for personal reasons (lack of interest to participate, limited time availability and/or work-related reasons). The final sample consisted of 234 participants who completed surveys. The prevalence of FI was 78% and 60% had severe FI. In bivariable analyses, female gender, having children, longer duration of residency in Chile, immigration status, limited Spanish proficiency, no access to basic services, and lower educational attainment were significantly associated with FI (Table 1).

Having children, limited Spanish proficiency, no access to basic services, and not being a legal permanent resident were associated with significantly higher adjusted odds of food insecurity (Table 2).

Discussion

This study revealed that four out of five Haitian immigrants in southern Chile experienced food insufficiency and almost two-thirds had severe FI. These findings are comparable to previously reported results in studies of Latino and African-American undocumented immigrants and migrant farm workers in the United States, which revealed a 61–96% FI prevalence [7–9].

Food security (FS) requires a household to acquire and consume sufficient and appropriate food. The FS assessment is an important tool to measure food and nutrition risk and general welfare, especially in vulnerable groups such as immigrants. This is particularly true when migration is caused by conflicts and/or natural disasters, which is the case for Haitian migrants after the 2010 earthquake and Hurricane Matthew, which exacerbated the political and economic crisis in Haiti [10].

Having children, limited Spanish proficiency, lack of access to basic services, and not being a legal permanent resident were associated with significantly higher adjusted odds of food insecurity. Similar characteristics have been reported as risk factors for FS in various immigrant groups in the United States and Canada [9–12].

Haitian immigration to Chile is a recent phenomenon [13, 14]. Most immigrants enter the country with a tourist visa and then apply for a visa "subjected to a contract," which can take from 6 to 9 months to process. For this reason, immigrants from Haiti and other nations have informal and precarious jobs with no social security and low wages [15]. This may be exacerbated by the racial discrimination experienced by some immigrant groups, especially immigrants from Haiti [16].

This is the first study, to our knowledge, to examine food insecurity in Haitian those residing in southern Chile. Study limitations include recruitment in community and religious centers and the small sample size. This study was conducted in certain regions of Southern Chile, so the finding may not necessarily generalize to other regions of Chile or the nation as a whole.

Table 1 Bivariable analysis of factors associated with food security status of Haitian immigrants in southern Chile

Variable	Food security (N = 51) (%)	Food insecurity (N = 183) (%)	*P*
Sex			
Female	12.6	87.4	.005
Male	28.1	71.9	
Age			
< 30 years old	24.4	75.6	.052
≥ 30 years old	36.0	64.0	
Marital status			
Married or common-law partner	17.3	82.7	.224
Single	24.2	75.8	
Children			
No children	84.4	15.6	< .001
Has children	58.2	41.8	
Duration of residence in Chile			
≤ 6 months	26.1	73.9	.015
> 6 months	11.6	88.4	
Immigration status			
Undocumented	26.7	73.3	.007
Legal permanent resident	10.9	89.1	
Limited Spanish proficiency			
No	11.0	88.9	< .001
Yes	42.5	57.5	
Access to basic services			
Yes	16.5	83.5	.034
No	28.0	72.0	
Educational attainment			
≤ 12 years	15.9	84.1	.009
> 12 years	30.2	69.8	

Table 2 Multivariable analysis of factors associated with food insecurity in Haitian immigrants in southern Chile

Independent variable	Adjusted odds ratio (95% CI) of food insecurity
Has children	3.6 (1.6, 7.4)
Limited Spanish proficiency	3.5 (1.8, 7.3)
No access to basic services[a]	2.8 (1.2, 6.4)
Not a legal permanent resident	2.4 (1.1, 6.1)

Model adjusted for sex and age

[a]Includes: electricity, sewage system, gas, Internet, drinking water, cable or satellite TV, telephone, and heating

The findings indicate an urgent need to design, implement, and evaluate programs and public policies targeting Haitian immigrants in Chile.

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