

Food Insecurity among College Students

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Abstract

Objective: To assess the prevalence and determinants of food insecurity among college students at the University of Nevada, Las Vegas (UNLV) during the COVID 19 pandemic.

Design: Cross-sectional study that collected online survey data from a convenience sample of college students.

Setting: UNLV, Las Vegas, Nevada, United States. **Participants:** 310 UNLV students 18 years of age and older, who were enrolled during the 2020 Fall semester.

Results: A total of 29.4% (n=97) of the study participants were food insecure. Students with a household income greater than \$50,000 were 81% less likely to be food insecure ($P < 0.01$) compared to students with a household income lower than \$50,000. Students who reported their general health as good, fair, or poor were 2.19 times more likely to be food insecure ($P = 0.02$) compared to students who reported their general health as excellent or very good. For each increase in GPA of 1 point, the odds of being food insecure decreased by 58% ($P = 0.01$).

Conclusions: This study highlights the high prevalence of food insecurity among UNLV students and provides public health professionals and policymakers with the scientific basis to develop interventions and policies aimed at reducing the rates of food insecurity among college students.

Keywords: Food insecurity, food security, college students, Nevada, social determinants

1. Introduction

The United States Department of Agriculture (USDA) defines food security as the access of all people at all times to enough food to maintain an active and healthy life (USDA, 2019a). Food insecurity is defined as the insufficiency of food in terms of quantity, quality, and diversity (Weiser et al., 2011). Several factors influence the prevalence of food insecurity in U.S. households. These factors include the household's composition, area of residence, income, and census region (USDA, 2019b). Additionally, households that experience food insecurity are more often comprised of racial or ethnic minorities.

Food insecurity is a growing public health problem in the United States (U.S.). The overall prevalence of food insecurity in the U.S. has remained relatively stable, hovering between 10% and 16% from 2003 to 2019. Approximately 10.5% of U.S. households were food insecure at some time during the year 2019 (Coleman-Jensen, Rabbitt & Gregory, 2020). Feeding America (2020) estimated a 4.1-percentage point increase in food insecurity rates among adults and a 5-percentage point increase among children directly due to the COVID 19 pandemic. These increases can likely be explained by the disruption in employment, income, and overall household stability (Feeding America, 2020).

College students represent a group of concern in terms of food insecurity. Although there is limited information on the national prevalence of food insecurity among college students, most studies reported that college students have higher food insecurity prevalence (more than 30%) (Nazmi et al., 2019; Bruening, Argo, Payne-Sturges, & Laska, 2017; Bruening, Brennhofner, Van Woerden, Todd, & Laska, 2016; Hagedorn & Olfert, 2018) compared to the national food insecurity prevalence of 10.5% (Coleman-Jensen, Rabbitt, & Gregory, 2020). The U.S. Government Accountability Office (GAO) conducted a review of 31 studies and reported a prevalence that varied from 9% to over 50% with about 71% of the 31 studies reviewed reporting a prevalence higher than 30% (US Government Accountability Office, 2018). Food insecurity among college students is concerning, as it can lead to a less nutritious diet, poor mental health (Owens et al., 2020; Mialki, House, Mathews, & Shelnut, 2021), anxiety,

depression (Bruening et al., 2016; US Census Bureau, 2020; US News & World Report, 2021), and a decrease in academic performance (Owens et al., 2020; US Census Bureau, 2020; US News & World Report, 2021).

There are several risk factors associated with the prevalence of food insecurity among college students. Having a low household income is the most common risk factor for food insecurity among college students. Low-income students are more likely to experience additional food insecurity risk factors compared with the overall student population. About 75% of low-income students have at least one additional food insecurity risk factor. Additional risk factors include being disabled, a history of being in foster care, being a first-generation college student (US Government Accountability Office, 2018), being homeless or at risk of homelessness, being a single parent, and receiving the Supplemental Nutrition Assistance Program (SNAP) (Bruening et al., 2017; US Government Accountability Office, 2018).

While studies have shown that college students have high rates of food insecurity, there is limited information on the prevalence and determinants of food insecurity among college students during the COVID 19 pandemic. The few studies that have been conducted show that of the students that experienced a change in food security, a larger percentage became more food insecure during the pandemic (Mialki et al., 2021; Soldavini, Andrew & Berner, 2021). According to the U.S. Census Bureau, Nevada reflects a majority-minority population or less than 50% of the population is comprised of a non-Hispanic single race. It is projected that the overall U.S. population will become majority-minority by 2040 (US Census Bureau, 2020). The University of Nevada, Las Vegas (UNLV) is an urban institution that was ranked as the third most diverse university in 2019 in the U.S. by U.S. News and World Report, granting access to a diverse student population which is an appropriate target for the proposed study (US News & World Report, 2021). Therefore, the purpose of this study was to assess the prevalence and determinants of food insecurity among college students at the University of Nevada, Las Vegas during the COVID 19 pandemic.

2. Method

2.1 Methodology and Data Collection

This was a cross-sectional study that collected survey data from a convenience sample. The target population for this study was UNLV students who were enrolled during the 2020 Fall semester. Participants were limited to students 18 years of age and older. Data were collected through an online Qualtrics survey sent via student email twice during the semester (sent in October and November 2020) to all college students enrolled at UNLV for the 2020 Fall semester. The survey included a total of 25 questions and took approximately 10 minutes to complete. Students were not compensated for their time. This study was approved by the UNLV Institutional Review board. The consent form was attached to the survey and students could not participate in the survey until they had consented. Ethical standards were met.

2.1.1 Dependent Variable

Food security was the dependent variable. Food security was measured using the six-item short form of the USDA household food security survey. This survey has been used extensively to evaluate household food security. It is known for its strong validity, reliability, and its ability to provide results that are comparable to national food security and hunger among adults (USDA, 2012). A Cronbach's alpha of 0.87 has been reported for this survey (Gulliford, Mahabir, & Rocke, 2004). Although this survey has not been validated for college students, it is the most commonly used survey to assess food security status among college students (US Government Accountability Office, 2018). Survey participants were classified by food security status: participants with a raw score of 0 or 1 were classified as food secure, and those with a raw score of 2 to 6 were classified as food insecure.

2.1.2 Independent Variables

Independent variables included factors that were reported in the literature as risk factors of food insecurity (USDA, 2019a). They included age (measured as a continuous variable), race/ethnicity (Black, White, Asian, Hispanics of any race, some other race or multiple races), marital status (single, married, divorced, other), gender (female, male, transgender, other), sexual orientation (heterosexual or straight, gay or lesbian, other), year in college (first-year undergraduate, second-year undergraduate, third-year undergraduate, fourth year or more undergraduate, graduate or professional, other), grade point average (measured as a continuous variable), employment (full time, part time, other), time in foster care (yes/no), income (<\$25,000; \$25,000 to \$50,000; \$50,000 to \$75,000; \$75,000 to \$100,000; >\$100,000), household income (same categories as income), presence of and responsible for children younger than 18 in the household (yes/no), participants' current residence (living with their parents, living independently), and participating in government assistance programs including SNAP and Medicaid. These variables were measured using questions from the 2018 CDC Behavioral Risk Factor Surveillance System

(BRFSS), and the 2018 General Social Survey (GSS).

2.2 Analytical Methods and Data Analysis

The 353 surveys were exported from Qualtrics into SPSS version 25. Of these, 43 surveys were removed because they had missing data for the dependent variable.

Because many of the demographic subcategories had small frequencies and percentages, these categories were recategorized to facilitate the calculations of errors in our models. Age was recategorized as two groups including 24 years and younger, and 25 years old and older. Race/ethnicity was recategorized as white and other race or ethnicity, marital status as single and other, gender as female and other, sexual orientation as heterosexual or straight and other, year in college as first-year to fourth-year or beyond undergraduate and graduate professional student, enrollment status as full-time/part-time and other, employment status as unemployed and working full or part-time, annual income as less than 25,000 and 25,000 or more, household income in less than 50,000 and 50,000 or more, government assistance program in yes or none, general health in excellent or very good and other, and residence in parent or guardian's home and other.

Descriptive statistical analysis was conducted to characterize the overall study population. Univariate analysis was conducted to determine significant associations with food security status; Chi-square tests were used for categorical variables and independent t-tests were used for continuous variables. A multivariate logistic regression analysis was conducted to assess the determinants of food insecurity in this population; independent variables included in the multivariate analysis were those that were significantly associated with food insecurity in the univariate analysis. Odds ratios (OR) and corresponding 95% confidence intervals (CI) were computed for all potential determinants of food insecurity. P-values less than 0.05 were considered statistically significant.

3. Results

3.1 Descriptive Statistics

The demographic characteristics of the 310 students can be found in Table 1. Of the participants, 75.3% were female, 55.3% were aged 18-24 years, and 33.4% were white. Moreover, 71.9% of participants were single, 76.6% were heterosexual, 82.2% were full-time students, 86.6% were undergraduate students, 58.1% worked full or part-time, 78.8% had an annual income lower than \$25,000, and 54.7% lived at their parent or guardian's home. The mean GPA was 3.48 and the standard deviation was 0.573. This sample is similar to the overall UNLV student population in the Fall 2020 semester in terms of race with 33.4% Whites in the current study and 30.8% Whites in the overall UNLV student population (University of Nevada, Las Vegas, 2020); year in college with 86.6% undergraduates in the current study and 83% in the overall UNLV student population (University of Nevada, Las Vegas, 2020); and being a first-generation college student with 49.7% in the current study and 51.7% in the overall UNLV student population.

Table 1. Demographic Characteristics of Study Participants

	Characteristics	Frequency	Percentage (%)
Age	18-24 years	177	55.3
	25 or more	90	28.1
	Missing	53	16.6
Race/Ethnicity	White	107	33.4
	Other	213	66.6
Marital Status	Single	230	71.9
	Other	89	27.8
	Missing	1	0.3
Gender	Female	241	75.3
	Other	78	24.4
	Missing	1	0.3
Sexual Orientation	Heterosexual or Straight	245	76.6
	Other	74	23.1
	Missing	1	0.3

Year in College	Year 1-3 undergraduate	193	60.3
	Over year 3 undergraduate and others	126	39.4
	Missing	1	0.3
Enrollment Status	Full time	263	82.2
	Part-time or Other	57	17.8
First-Generation College Student	Yes	159	49.7
	No	161	50.3
Employment Status	Unemployed	134	41.9
	Working full or part-time	186	58.1
Annual Income	< \$25,000	252	78.8
	>\$25,000	66	20.6
	Missing	2	0.6
Household Income	< \$50,000	144	45
	> \$ 50,000	173	54.1
	Missing	3	0.9
Government Assistance Programs	Yes	54	16.9
	None	261	81.6
	Missing	5	1.6
Smoking	Yes	19	5.6
	No	298	93.1
	Missing	3	0.9
General Health	Excellent or Very Good	141	44.2
	Other	178	55.6
	Missing	1	0.3
Living with and Responsible for children under 18 years	Yes	40	12.5
	No	279	87.2
	Missing	1	0.3
Time in Foster Care	Yes	7	2.2
	No	311	97.2
	Missing	2	0.6
Disability	Yes	39	12.2
	No	280	87.5
	Missing	1	0.3
Residence	Parent/guardian's home	175	54.7
	Other	144	45
	Missing	1	0.3

3.2 Prevalence and Characteristics of Food Insecurity

Table 2 shows a summary of demographic characteristics by food security status. A total of 91 (29.4%) of the study participants were food insecure. Of the food insecure students, 81.1% were female, 64.4% were aged 18-24 years, 68.9% were heterosexual, and 66.7% were year one to three undergraduates. Additionally, 80.2% of food insecure students were enrolled full-time for the Fall 2020 semester, 59.3% were first-generation college students, 84.4% had an annual income lower than \$25,000, 74.4% had an annual household income lower than \$50,000, 38.5% lived at their parent or guardian's home, and 30.3% participated in government assistance programs, including SNAP, WIC, Medicaid and other.

Chi-square analysis for categorical variables and an independent t-test for continuous variables revealed a

significant association between food security and sexual orientation ($P = 0.04$), being a first-generation college student ($P = 0.04$), household income ($P < 0.01$), participating in government assistance programs ($P < 0.01$), general health ($P < 0.01$), having a disability ($P = 0.01$), residence ($P < 0.01$), and GPA ($P < 0.01$).

Table 2. Demographic Characteristics by Food Security Status from a subsample of University of Nevada Las Vegas Students, Fall 2020

	Food Security Status		Chi-Square	Total
	Food Secure Number (%)	Food Insecure Number (%)	P-Value	Number (%)
Overall	219 (70.6)	91 (29.4)		
Age				
18-24 years	124 (56.6)	47 (51.6)	0.73	171 (55.2)
25 or more	62 (28.3)	26 (28.6)		88 (28.4)
Missing	33 (15.1)	18 (19.8)		51 (16.4)
Race/Ethnicity				
White	72 (32.9)	32 (35.2)	0.70	104 (33.5)
Other	147 (67.1)	59 (64.8)		206 (66.5)
Marital Status				
Single	164 (74.9)	59 (64.8)	0.09	223 (71.9)
Other	55 (25.1)	31 (34.1)		86 (27.7)
Missing	0 (0)	1 (1.1)		1 (0.4)
Gender				
Female	161 (73.5)	73 (80.2)	0.16	234 (75.5)
Other	58 (26.5)	17 (18.7)		75 (24.2)
Missing	0 (0)	1 (1.1)		1 (0.3)
Sexual Orientation				
Heterosexual or Straight	175 (79.9)	62 (68.1)	0.04	237 (76.4)
Other	44 (20.1)	28 (30.8)		72 (23.2)
Missing	0 (0)	1 (1.1)		1 (0.4)
Year in College				
Undergraduate	184 (84)	83 (91.2)	0.056	267 (86.1)
Graduate/Professional	35 (16)	7 (7.7)		42 (13.5)
Missing	0 (0)	1 (1.1)		1 (0.4)
Enrollment Status				
Full time	180 (82.2)	73 (80.2)	0.68	253 (81.6)
Part-time or Other	39 (17.8)	18 (19.8)		57 (18.4)
First Generation College Student				
Yes	103 (47)	54 (59.3)	0.04	157 (50.6)
No	116 (53)	37 (40.7)		153 (49.4)
Employment Status				
Unemployed	91 (41.6)	37 (40.7)	0.88	128 (41.3)
Working full or part-time	128 (58.4)	54 (59.3)		182 (58.7)

Annual Income				
< \$25,000	168 (76.7)	76 (83.5)	0.15	244 (78.7)
>\$25,000	50 (22.8)	14 (15.4)		64 (20.6)
Missing	1 (0.5)	1 (1.1)		2 (0.7)
Household Income				
< \$ 50,000	74 (33.8)	67 (73.6)	< 0.01	141 (45.5)
> \$50,000	143 (65.3)	23 (25.3)		166 (53.5)
Missing	2 (0.9)	1 (1.1)		3 (1)
Government programs				
Yes	26 (11.9)	27 (29.7)	< 0.01	53 (17.1)
None	192 (87.7)	62 (68.1)		254 (81.9)
Missing	1 (0.4)	2 (2.2)		3 (0.4)
Smoking				
Yes	10 (4.6)	9 (9.9)	0.07	19 (6.1)
No	208 (95)	81 (89)		289 (93.2)
Missing	1 (0.4)	1 (1.1)		2 (0.7)
General Health				
Excellent or Very Good	111 (50.7)	26 (28.6)	< 0.01	137 (44.2)
Other	108 (49.3)	65 (71.4)		173 (55.8)
Living with and Responsible for children under 18 years				
Yes	24 (11)	15 (16.5)	0.18	39 (12.6)
No	195 (89)	76 (83.5)		271 (87.4)
Time in Foster Care				
Yes	5 (2.3)	2 (2.2)	1.00	7 (2.2)
No	214 (97.7)	88 (96.7)		302 (94.7)
Missing	0	1 (1.1)		1 (3.1)
Disability				
Yes	20 (9.1)	19 (20.9)	0.01	39 (12.6)
No	199 (90.9)	72 (79.1)		271 (87.4)
Residence				
Parent/guardian's home	135 (61.6)	35 (38.5)	< 0.01	170 (54.8)
Other	84 (38.4)	56 (61.5)		140 (45.2)
GPA: Mean (SD)	3.53 (0.607)	3.31 (0.469)	< 0.01	

Table 3 shows the results of the multivariate logistic regression analysis of food security status and demographic variables. Students with a household income greater than \$50,000 were 81% less likely to be food insecure ($P < 0.01$) compared to students with a household income lower than \$50,000. In addition, students who reported their general health as good, fair, or poor were 2.19 times more likely to be food insecure ($P = 0.02$) compared to students who reported their general health as excellent or very good. Moreover, for each increase in GPA of 1 point, the odds of students being food insecure decreased by 58% ($P = 0.01$).

Table 3. Multivariate Analysis: Food Security Status and Relevant Determinants from a subsample of University of Nevada Las Vegas Students, Fall 2020

	Food Insecure[‡] Odds Ratios (95% CI)	P-Value
Sexual Orientation*		
Heterosexual or Straight	Reference	0.32
Other	1.44 (0.70-2.95)	
First Generation College* Student		
Yes	Reference	0.87
No	1.05(0.56-1.98)	
Household Income*		
< \$ 50,000	Reference	< 0.01
> \$50,000	0.19 (0.09-0.37)	
Government programs*		
Yes	Reference	0.07
None	0.49 (0.23-1.05)	
General Health*		
Excellent or Very Good	Reference	0.02
Other	2.19 (1.13-4.23)	
Disability*		
Yes	Reference	0.06
No	0.43 (0.17-1.05),	
Residence*		
Parent/guardian's home	Reference	0.07
Other	1.80 (0.96-3.37),	
Grade Point Average*		
	0.42 (0.22-0.79),	< 0.01

‡ Dependent variable;

* Independent variable.

4. Discussion

Food insecurity is a growing public health problem in the U.S., specifically among college students (US Government Accountability Office, 2018). The 29.4% prevalence of food insecurity among UNLV students found in this study is more than twice the overall 2019 national prevalence of household food insecurity of 10.5% (Coleman-Jensen, Rabbitt, & Gregory, 2020). Moreover, this prevalence is higher than what some studies have found before the COVID 19 pandemic, including the 21% food insecurity prevalence reported among 441 non-freshman students at the University of Hawai'i at Mānoa, Honolulu, Hawai'i (Chaparro, Zaghoul, Holck, & Dobbs, 2009), and the 22% food insecurity prevalence reported among 4,984 students at the University of North Carolina at Chapel Hill (Soldavini & Berner, 2019). The prevalence of food insecurity in the current study is consistent with other studies that found high rates of food insecurity among college students during the COVID 19 pandemic (Owen et al., 2020; Mialki et al., 2021; Soldavini, Andrew, & Berner, 2021). The higher prevalence uncovered by the current study may be explained by several factors, including the COVID 19 pandemic which has increased the overall number of people experiencing food insecurity through disruptions in employment and income. Although the current study and others found a high prevalence of food insecurity among college students during the COVID 19 pandemic, the true role of the pandemic on this prevalence is unclear because research conducted even before the pandemic showed higher rates of food insecurity among college students compared to the national prevalence (Nazmi et al., 2019; Bruening et al., 2017; US Government Accountability Office, 2018). The

lower access of college students to the SNAP program was reported as a factor that could explain the high rates of food insecurity among this population before the COVID 19 pandemic (US Government Accountability Office, 2018).

The current study found that the odds of respondents being food insecure decreased by 58% for each increase in GPA of 1 point. This result is similar to those reported by Morris et al. (2016) who found that students with higher GPAs (>3) were less likely to be food insecure, and students with a GPA of 0-1.99 were less likely to be food secure (Morris et al., 2016). Similarly, in their study evaluating the prevalence and correlates of food insecurity in a rural university in Oregon, Patton-Lopez and colleagues reported that students with a GPA greater than 3.1 were 60% less likely to be food insecure (Patton-López, López-Cevallos, Cancel-Tirado, & Vazquez, 2014). Several factors may explain the correlation between food insecurity and GPA. First, Raskind et al. found that psychosocial health significantly mediated the association between food insecurity and GPA, and is thus, an “important mechanism through which food insecurity affects academic performance” (Raskind, Haardörfer, & Berg, 2019). Second, the association between food insecurity and GPA could be explained by the compounding effect of not being able to meet basic needs such as food, housing, and other challenges that may overburden the students and lead to more struggles in other areas such as school and their overall academic achievement (Phillips, McDaniel, & Croft, 2018). Relatedly, this may also be confounded by social determinants of health, where students inherently at risk for food insecurity, such as those from lower SES households, are more likely to attend underperforming schools and be less college-ready (DeAngelo & Franke, 2016). Further studies are needed to better understand the relationship between food insecurity and GPA among college students and the effects of other challenges the students may face in this relationship.

The current study revealed that students who reported their general health as good, fair, or poor were 2.19 times more likely to be food insecure compared to students who reported their general health as excellent or very good. Similarly, Soldavini, and Berner found that food insecure students had significantly higher odds of lower self-reported health in their study examining the association between food security status and health and diet-related outcomes (Soldavini & Berner, 2019). Moreover, students who reported fair or poor health were more likely to be food insecure than students with better self-reported health in a study evaluating food insecurity among students attending a rural university (Patton-López et al., 2014). The relationship between food insecurity and general health could be at least in part due to the relationship between food insecurity and anxiety and depression (USDA, 2019a; Hagedorn, & Olfert, 2018). It may also be the bidirectional relationship between food insecurity and chronic disease, where chronic disease risk and chronic disease factors may arise because food insecure individuals purchase and consume cheaper and less healthy food, or trade-off health care and other necessities to acquire food, and/or, individuals may become food insecure due to health problems related to chronic disease and chronic disease risk factors. Further, food insecurity may occur from job loss and low income resulting from chronic diseases as a barrier to being able to work (Berkowitz, Basu, Meigs, & Seligman, 2018). Additionally, food insecurity is linked to unhealthy eating and obesity (Ashe & Lapane, 2018; Hernandez, Reesor, & Murillo, 2017; Morales & Berkowitz, 2016; Pan, Sherry, Njai, & Blanck, 2012). All these can greatly affect students' self-reported general health.

Other demographic characteristics such as being a person with a disability, not living with a parent or guardian, history of being in foster care, being a first-generation college student, and participating in government assistance programs are significantly associated with food insecurity among college students (US Government Accountability Office, 2018). However, none of these risk factors were significantly associated with food insecurity in our multivariate regression analysis. Several factors could explain the difference in findings. First, the current study had a small subset of students with a disability (12%), students with a history of being in foster care (2.2%), and participating in government assistance programs (16.9%). Second, the difference in findings could be explained by the difference in study design and methods, and geographic areas. Third, changes related to the pandemic may have influenced the independent variables as well. For example, some may have been able to buffer the potential for food insecurity due to receiving the additional unemployment benefits, or some may have changed residency status as a result of lockdowns, remote instruction, and other pandemic-related changes.

The results of the current study provide valuable information on the prevalence and characteristics of food insecurity among this sample of UNLV students. However, this study is subject to a few limitations. The main limitation of this study is the low response rate of less than 2% of the overall university population. However, a power analysis suggested a minimum sample size of 380 participants was recommended for a sample proportion of 50%, a margin of error (α) of 5%, and a confidence level of 95%. The students who participated in this study may be different from the student body in general. This low response rate and sample size limit the generalizability of the current study. Additionally, small samples sizes for some categories produced large confidence intervals for the

odds ratios. The cross-sectional study design used in the current study is another limitation that restricts the assessment of any causality. Additionally, because of the sensitive nature of food security, the results of the current study may be biased due to social desirability. Other limitations include recall bias because this study collected data about past food security and self-selection bias.

The current COVID-19 pandemic may have constituted a limitation to the current study. This pandemic may have had an impact on the response rate and food security status. The low response rate in this study may be at least in part due to the COVID-19 pandemic, campus closure, and mandates for virtual learning which resulted in 80% of courses being offered online. This shift to a virtual environment for many of life's daily tasks and virtual burnout may have impacted students' willingness to participate in this online study.

Despite the aforementioned limitations, this study provides valuable information on the prevalence and associations of food insecurity among a subsample of students during the Covid 19 pandemic. These results provide public health professionals and policymakers with the scientific basis to develop interventions and policies aimed at reducing the rates of food insecurity among college students. These include interventions to raise students' awareness of existing food banks and free food services or policies to supply food to food banks located on college campuses. It also highlights the need to interact with and connect at-risk students with resources necessary to enhance college readiness and overall retention, thus aiding in breaking the cycle of poor social determinants of health. These interventions are even more urgent now that the prevalence of food insecurity is expected to increase as a result of the COVID 19 pandemic (Feeding America, 2020). More research is needed to assess the true effect of the COVID 19 pandemic on food insecurity among college students. In addition, studies aimed at monitoring food insecurity trends among college students, and qualitative studies assessing students' perception of food insecurity and the factors that can help mitigate this public health problem are warranted. Researchers estimate that 18% of college students are eligible for SNAP benefits. However, only 3% of these students receive these benefits (Allison, 2018). Future research avenues include assessing college students' eligibility to SNAP and the barriers that prevent access to government assistance programs and assessing on-campus resources that can help students sign up for SNAP and other government assistance programs.

5. Conclusion

This study highlights the high prevalence of food insecurity among college students and provides public health professionals and policymakers with the scientific basis to develop interventions and policies aimed at reducing the rates of food insecurity. Additionally, this study uncovered the demographic characteristics of food insecure college students. Further studies with larger sample size are required to better assess the determinants of food insecurity among college students.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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