Prevalence, perceptions, and recommendations for addressing student food insecurity: A mixed-methods investigation

Nila Pradhananga, BS1, Kritee Niroula, MS1, Jean Pierre Enriquez, MS1, Erin McKinley, PhD, RD, LDN, CLC, CHES, FAND1, and Bailey Houghtaling, PhD, RDN1,2,3

Background

• The U.S. Department of Agriculture (USDA) defines food insecurity as having “limited or uncertain availability of nutritionally adequate and safe foods” or “limited or uncertain ability to acquire acceptable foods in socially acceptable ways.”1

• In some assessments, one in five undergraduates (22%) and 19% of graduate and professional students have reported experiencing food insecurity.2-3

• Because of dietary acculturation, international students have been found to face more challenges compared to domestic U.S. students.3-5 University food assistance programs may help, especially during and after COVID-19.

• However, specific barriers and facilitators to food security among U.S. international students are understudied and critical for leveraging supports.

Methods

A mixed explanatory methods research design was used.

Phase I : Quantitative Study

• A Qualtrics 30-item survey using USDA’s Six-Item Short Form Food Security Survey Module6 and sociodemographic questions (e.g., age, race, ethnicity, living status) was administered.

• Food security status during the COVID-19 (March 2020-March 2021) and the last 12-months (July 2021-July 2022)

• Convenience sampling was used to distribute surveys through social media, flyers, and student organization campaigns.

Phase II : Qualitative Study

• Semi-structured interviews were conducted via Zoom in the span of four months (Oct22-Jan23) among survey participants with interest in participating. Interviews investigated U.S. international students’ experiences with food insecurity and barriers and possible solutions.

Data analysis

Phase I: Quantitative Study

• Statistical Package for Social Sciences (SPSS) 2022 version 26 was used for the statistical analysis.

• Frequencies and percentages were calculated to compare food insecurities between different demographics such as age, race, marital status, gender, number of people in the household, and college majors.

• The risk estimates were compared between existing demographical categories using odds ratios.

Phase II : Qualitative Study

• All Zoom interviews were audio-recorded and transcribed verbatim via Zoom business transcription service. Six steps of theme analysis were adapted to generate inductive codes

• All transcripts were loaded into an initial online platform called Taggouette for coding and tagging the theme.

• (NP, KN & JP) investigators divided the interview transcripts and analyzed and coded the data independently and iteratively.

• The research team utilized the Consolidated Criteria for Reporting Qualitative research (COREQ) checklist to report study results.3

Results

Results

A total of (n=153) survey responses and (n=30) interviews were collected and represented U.S. international students from 32 countries and five continents. See Figure 1.

Figure 1. A survey was distributed across students from various diverse countries: Brazil, China, Colombia, Ecuador, El Salvador, Honduras, Mexico, Nepal, Panama and Uganda

Food security scores among students categorized using USDA FI categories during COVID and during past 12 months

<table>
<thead>
<tr>
<th>Food security category</th>
<th>Last 12 Months</th>
<th>During Pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low food security</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>Low food security</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>High food security</td>
<td>60%</td>
<td>65%</td>
</tr>
</tbody>
</table>

During the COVID-19 pandemic, 48 students (31.4%) were found to be food secure while 105 (68.6%) were food insecure.

For Post – Pandemic period, 59 (38.6%) were food secure and 94 (61.4%) were food insecure.

135 (88.2%) noted having used the University food pantry service at least once.

• U.S. international students’ concerns: limited food options available in the food pantry; and issues with the quality of food in terms of freshness as well as nutrition.

• Fewer barriers were mentioned (n=76) than facilitators (n=88). Solutions (n=85) were mentioned along with either barrier and/or facilitators in multiple cases.

Conclusion and Discussion

• The international student population were found to be food insecure. Married graduate students who were living alone were found to be at higher risk of food insecurity regardless of pandemic.

• Solutions suggested by students paired with their barriers mentioned could be beneficial if reported to the food pantry and university administration to plan updating the programs and develop new policies.

• Initiatives should start to create accessible resources and options to support continuous program evaluation within campus food resources and adaptation need to be made based on the unique needs of International students.

References


