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Characteristics Associated With Self-Reported Worry Among Adults About Food Availability and Food Safety During the COVID-19 Pandemic—United States, June 2020 Survey Data

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Abstract

Purpose: During a pandemic, persons might experience worry because of threats (real or perceived), or as part of stress-related reactions. We aimed to provide insight into Americans' worry about food during COVID-19.

Design, Subjects, Measures: Online survey data from June 2020 (n = 4,053 U.S. adults; 62.7% response rate) was used to assess 2 outcomes: worry about food availability (FA); food safety (FS). Adults with missing information about FA and FS were excluded from analysis (final n = 3,652).

Analysis: We used descriptive statistics and multivariable logistic regression to examine characteristics associated with the outcomes and estimate adjusted odds ratios (aOR) and 95% confidence intervals (95%CI) for associations between sociodemographic variables and outcomes.

Results: 58.3% of respondents reported worry about FA; 57.5% about FS, with higher odds of worry for FA and FS (versus referents) in lower income households (FA: aOR = 1.76 95%CI [1.30, 2.39]; FS: 1.84[1.35, 2.51]); unemployed (1.54[1.05, 2.28]; 1.90[1.26,2.81]); non-Hispanic Black (1.55[1.14,2.12]); 2.25[1.65,3.07]); Hispanic (1.39[1.06,1.82]; 1.94[1.46,2.56]).

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The work distributions of coauthors are as following; BLD and HMB conceptualized the study and developed hypotheses. BD and SLK analyzed the data. BD drafted the article. SLK provided statistical support. BLD, SLK, DMH, ALY, MAP, and HMB contributed to the interpretation of study findings. All authors read and approved the final manuscript.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Supplemental Material

Supplemental material for this article is available online.

Conclusion: Findings highlight the importance of strategies to reduce consumer worry about FA and FS and negative food behaviors, and the need for continued access to hunger safety net programs, which could have positive effects on nutrition security.

Keywords

food availability; food safety; food security; nutrition security; Covid-19

Purpose

The COVID-19 pandemic has contributed to some disruptions in the U.S. food system. U.S. retailers have, however, reported few major, sustained disruptions in food accessibility,¹ and risk of contracting COVID-19 from food is very low.² Some consumer food behaviors related to food availability (FA) and food safety (FS) (e.g., panic buying, stockpiling, inappropriately bleaching food) have been documented.^{1,3,4} During a pandemic, persons might experience worry because of threats (real or perceived), or as part of stress-related reactions.⁵ We aimed to provide insight into Americans' worry about food during COVID-19.

Methods

Design

Cross-sectional data from Porter Novelli Public Service ConsumerStyles summer survey (SummerStyles) conducted from June 10-June 25, 2020 using a representative panel of U.S. adults were analyzed (n = 4,053; 62.7% response rate). Adults with missing information on worry about FA and FS (n = 401) were excluded from analysis, yielding the final analytic sample of 3,652 adults.

Measures

Outcome variables (worry about FA and FS) were assessed using responses to the question, "How worried are you and your household about each of the following as it relates to the COVID-19 pandemic?" Two statements were analyzed: (1) "There will not be enough food in stores and restaurants in my community," (food availability) and (2) "Food will become unsafe," (food safety). Respondents selected one response per statement. For this analysis, response options ("a little worried", "somewhat worried", "very worried", "extremely worried", and "not at all worried") were combined and dichotomized into "worried at any level" ('a little worried'; 'somewhat worried'; 'very worried'; 'extremely worried') and "not at all worried".

Analysis

Descriptive statistics and multivariable logistic regression analyses were used to examine characteristics associated with worry about FA and FS and estimate adjusted odds ratios (aORs) and 95% confidence intervals (CI) for associations between sociodemographic variables and worry. Differences in percentages were considered statistically significant when confidence intervals were not overlapping. All analyses were conducted using SAS software (version 9.4; SAS Institute).

Results

More than half of respondents reported worry about FA (58.3%) or FS (57.5%) with differences by subgroups. The highest percentage of adults who reported worry about FA were among those not employed (74%); household income \leq \$34,999 (70%); NH-Black adults (68%); adults aged 35-49 years (64%); high school education or less (62%); and those living in the South census region (61%). The highest percentage of adults who reported worry about FS were those who were not employed (78%); NH-Black (73%); household income \leq \$34,999 (74%); adults aged 35-49 years (61%); and those living in the Northeast census region (61%).

Adjusted odds of worry about FA were higher among adults aged 35-49 years (aOR = 1.68 95%CI [1.30, 2.19]), income \leq \$34,999 (1.76 [1.30, 2.39]), those who were NH-Black (1.55 [1.14,2.12]), Hispanic (1.39[1.06,1.82]), or NH-Other race/ethnicity (1.40 [1.01,1.95]), and not employed (1.54 [1.05, 2.28]) than among their respective referent groups. Adjusted odds for worry about FS were higher among females (1.42 [1.20,1.69]), adults with a high school education or less (1.53[1.22,1.91]), annual household income \leq \$34,999 (1.84 [1.35,2.51]), who were not employed (1.90 [1.26,2.81]) and who were NH-Other race/ethnicity (2.05 [1.77,3.53]), NH-Black (2.25 [1.65,3.07]), or Hispanic (1.94 [1.46,2.56]) than among their respective referent groups. Full results table available in supplemental Table 1.

Discussion

Summary

This study found that during June 2020, more than half of U.S. adults reported worry about FA and FS. Consistent with these findings, a study conducted in May and June 2020 found that more than half of all respondents reported concern about violations of FS regulations during COVID-19.³ At the time our study was conducted in June 2020, some respondents might have experienced temporary disruptions in FA¹ and might have been exposed to national coverage of FS topics (4) related to COVID-19. Thus, reported worry about FA and FS in this study might be related to temporary food shortages, emerging safety and COVID-19 information, and news. Worry about FA during the pandemic, specifically among adults with food insecurity, have been documented,⁶⁻⁸ but this study did not estimate rates of food insecurity among respondents, thus cannot be compared with others.

In summer 2020, higher proportions of low-income persons, racial/ethnic minority groups, unemployed persons, and adults aged 35–49 years had worry about FA than did their referent group peers. Differences in worry about FA in this study might be partially explained by known, pervasive disparities in food environments by income and race/ethnicity before the pandemic.⁹ Worry about FA could be related to sudden shifts in consumer demand (e.g., stockpiling) that contributed to major stockouts of staple food items that occurred early in the pandemic.¹ These events result in temporary disruptions in retail food accessibility and affordability, which can disproportionately affect those without the means to purchase food. Even temporary disruptions in FA can negatively affect nutrition security,^{3,10} and exacerbate the effects of job loss or new or existing food insecurity.⁶⁻⁸

Public health and social services should continue to support hunger-relief efforts and organizations,³ and share information related to how to obtain food.

Persons who were unemployed, low-income, members of racial/ethnic minority groups, and those with high school education, reported more worry about FS than their white counterparts. Although this study did not assess why some groups had greater concerns, it may be explained by emerging COVID-19 and food safety information or a heightened awareness of behaviors related to worry about FS during the pandemic.¹ For instance, one CDC report that found that approximately one-third of adults engaged in non-recommended high-risk practices with the intent of preventing COVID-19, such as using bleach on food products.⁴ Public health communications should better understand why some groups have higher worry about FS during COVID-19, and promote messaging related to safe food practices during the pandemic, including avoiding the use of harsh chemicals on food or food packaging to prevent illness, and to tailor messaging that is culturally appropriate and easy to access and understand.

Limitations

This study is subject to at least 2 limitations. First, worry about FA and FS may differ from respondent's actual behavior. Second, despite weighting to make survey responses nationally representative, findings from this study might not be generalizable to all U.S. adults because participants were chosen from an online panel, and thus could differ systematically from other members of the population.

Significance

Public health efforts to address negative food behaviors related to worry about FA and FS during COVID-19 are important. Improved understanding by public health officials about consumer worry related to FA and FS during the pandemic could inform the development and implementation of community food strategies and communications which could have positive effects on nutrition security.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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So What?

What is already known about this topic?

U.S. retailers have reported few persistent disruptions in food availability during the COVID-19 pandemic, and the risk of contracting COVID-19 from eating or handling food is very low.

What does this article add?

In June 2020, over half of online panel survey respondents reported worry about food availability (58.3%) and food safety (57.5%), with higher levels among lower-income households, unemployed adults, and non-Hispanic Black or Hispanic groups.

What are the implications for health promotion practice or research?

To reduce stress and negative food behaviors (e.g., stockpiling, inappropriately using bleach on food), it is important to provide the public with information on the food supply's safety and stability while ensuring continued access to hunger relief programs and community services.