

### Changes in Eating Behaviors During COVID-19 and Association With Food Insecurity: Results From a Nation-Wide Online Survey

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**Objectives:** The COVID-19 pandemic has catalyzed both a health and economic crisis in the US, with growing concerns on how eating behaviors and food security (risk factors of non-communicable disease) have changed. This study examines changes in food insecurity and eating behaviors during the early months of the pandemic among US adults.

**Methods:** A nationwide survey of US adults was conducted in April 2020 through social-media advertisement-based recruitment to assess the impact of the COVID-19 pandemic. Food insecurity was measured using a six-item validated USDA Household Food Security instrument. Eating behaviors were assessed by asking participants how their eating has changed since the pandemic (“Much More” to “Much Less”). Sociodemographic differences in food behaviors were assessed with

chi-square tests, and an adjusted logistic regression model evaluated the association between food insecurity and eating behaviors.

**Results:** Overall, 5256 participants had data on eating behaviors; 58.6% were female, 43.8% aged 40–59 years old, and 56.4% were employed. Eating remained unchanged for most participants (52.7%), while 34.6% noted eating more, and 12.7% noted eating less since the pandemic. 85.3% of participants displayed high/marginal food insecurity, while 14.7% displayed low/very-low food security. Compared to those eating more during the pandemic, those eating less were more likely to be younger (24.7% vs. 17.4% aged 18–39), male (42.0% vs. 33.4%), not working, or unemployed (17.1% vs. 13.7%), and make <\$30,000 a year (20.7% vs. 12.6%). When adjusting for socio-demographic variables, compared to those whose eating behavior did not change, the adjusted odds of low/very-low food insecurity was higher among both those who were eating less (AOR:6.44, 95%CI:4.96–8.37) and eating more (AOR:1.67, 95%CI:1.33–2.09).

**Conclusions:** Our findings suggest that the COVID-19 pandemic has catalyzed significant food insecurity, with food insecurity being associated with bidirectional changes in food consumption. Public health professionals must critically examine the various contributors of eating behaviors during the pandemic and their link with food insecurity to develop targeted interventions.

**Funding Sources:** N/A