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Increasing food insecurity severity is associated with lower diet quality in Australian adults

K. Kent[1], T. Schumacher[2], S. Kocar[3], A. Seivwright[3], D. Visentin[4], C.E. Collins[5,6] and L. Lester[3]
[1]*School of Medical, Indigenous and Health Sciences, Faculty of Science, Medicine and Health, University of Wollongong. Wollongong, NSW 2522, Australia*
[2]*Department of Rural Health, University of Newcastle, Tamworth, NSW, 2340, Australia*
[3]*Institute for Social Change, University of Tasmania, Hobart, Tasmania, 7000, Australia*
[4]*School of Health Sciences, University of Tasmania, Launceston, Tasmania, 7250, Australia*
[5]*University of Newcastle, School of Health Sciences, College of Health, Medicine and Wellbeing, Callaghan, NSW, 2308, Australia*
[6]*Food and Nutrition Research Program, Hunter Medical Research Institute, New Lambton Heights, NSW 2305, Australia*

Food insecurity, the inadequate or insecure access to food due to financial constraints, is a growing concern in high-income countries like Australia[1]. Food insecure adults may have reduced diet quality due to constraints on food purchasing and consumption[2] but further research is needed to understand how the severity of food insecurity impacts diet quality in an Australian setting. This study aimed to examine the relationship between diet quality and increasing severity of household food insecurity using validated measurement tools. A cross-sectional, online survey of Australian adults (aged 18 years+) used the USDA Household Food Security Six-item Short Form to classify respondents as food secure or marginally, moderately, or severely food insecure. The Australian Recommended Food Score (ARFS; score between 0–73) determined diet quality (ARFS total) and sub-scale scores for eight food groups[3], with higher scores indicating higher diet quality. Diet quality score results are further categorised as "needs work" (<33), "getting there" (33-38), "excellent" (39-46) or "outstanding" (47+). Survey-weighted linear regression (adjusted for age, sex, income, education, location, household composition) analyses indicate that 45% of participants were living in households that experienced food insecurity, comprising 7% marginally, 18% moderately and 20% severely food insecure households. The ARFS total survey-weighted mean score for the whole sample (n = 804) was 32.4 (SD = 9.8). As the severity of household food insecurity increased, ARFS scores decreased. Marginally food insecure respondents reported a mean ARFS score three points lower than food-secure adults (B=-2.7; 95%CI [−5.11, −0.34]; p = 0.03), and scores reduced by six points for moderately (B=-5.6; 95%CI [−7.26, −3.90]; p<0.001) and twelve points for severely food insecure respondents (B=-11.5; 95%CI [−13.21, −9.78]; p<0.001). Marginally food insecure respondents had significantly lower vegetable sub-scale scores, moderately food insecure respondents had significantly lower sub-scale scores for all food groups except dairy, severely food insecure respondents had significantly lower scores for all sub-scale scores. Poorer diet quality is evident in adults living with any food insecurity but gets progressively worse as the severity of food insecurity increases. Interventions to reduce food insecurity and increase diet quality are required to prevent adverse nutrition-related health outcomes in food-insecure populations in Australia and beyond.

Keywords: food security; food insecurity; diet quality; dietary intake

Ethics Declaration

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References

1. Kent K, Murray S, Penrose B *et al.* (2022) *Int J Behav Nutr and Physical Activity* **19**, 115.
2. Lindberg R, McNaughton SA, Abbott G *et al.* (2022) *Nutrients* **14**, 4133.
3. Collins CE, Burrows TL, Rollo ME *et al.* (2015) *Nutrients* **7**, 785–798.