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Assessing domains and determinants of household food insecurity in southern ethiopia: A multinomial logistic regression analysis

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Abstract

Malnutrition remains a critical global challenge, with nearly one-third of the world's population affected by at least one form of nutritional deficiency. This study investigates the prevalence, dimensions, and determinants of household food insecurity in Southern Ethiopia, using data collected in 2023. The results reveal that 60 % of households experience food insecurity-16 % mildly, 33 % moderately, and 11 % severely. The average Household Dietary Diversity Score (DDS) stands at 6.71, suggesting relatively diverse dietary consumption. However, disparities remain: 37 % of households exhibit low dietary diversity, 29 % medium, and 34 % high. Core challenges include limited access to food, poor dietary variety, and inadequate intake. Food insecurity is categorised into three key domains: (I) anxiety or uncertainty about food supply (40 %), (II) perceptions of inadequate food quality (10 %), and (III) insufficient food intake and its consequences (50 %). A multinomial logistic regression analysis identifies several statistically significant determinants of food security: the age of the household head, household size, access to health extension services, distance to markets and health centers, and the adoption of orange-fleshed sweet potatoes (OFSP). Older household heads are more likely to be food secure, while larger household sizes are also positively associated with food security-possibly due to shared labour and resources. OFSP adoption demonstrates a strong positive effect, underscoring the potential of agricultural innovations in improving food and nutrition security. These findings provide critical insights into the multifaceted nature of food insecurity and offer an evidence base for designing targeted, context-specific interventions to enhance household resilience and promote sustainable food security in the region.

Keywords: Dietary Diversity Score (DDS), Food Security Domains, household Food Insecurity, Multinomial Logistic Regression, Orange-Fleshed Sweet Potatoes (OFSP), Southern Ethiopia