



# Investigating the Relationship between Food Insecurity and Antiretroviral Therapy Interruption in Adults Living with HIV in Windhoek's Informal Settlements: A Research Protocol

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## Abstract

Food insecurity is a critical social determinant of health in sub-Saharan Africa, particularly in urban informal settlements. For adults living with HIV, it may compromise nutritional status and act as a barrier to consistent antiretroviral therapy (ART) adherence, potentially leading to treatment interruption. The dynamics of this relationship within Namibia's informal urban contexts are not well documented. This protocol outlines a study to investigate the association between food insecurity and ART interruption among adults living with HIV in Windhoek's informal settlements. The primary objective is to determine the prevalence of ART interruption. Secondary objectives are to assess the prevalence and severity of food insecurity, and to explore the perceived mechanisms through which food insecurity influences ART adherence behaviours. A community-based, cross-sectional mixed-methods design will be employed. A sample of 400 adults living with HIV and registered for ART will be recruited via two primary healthcare clinics. Quantitative data will be collected using validated scales for food insecurity (HFIAS) and ART adherence. In-depth interviews with a purposive sub-sample of 30 participants will explore lived experiences. Quantitative data will be analysed using descriptive and inferential statistics (logistic regression), while qualitative data will undergo thematic analysis. As this is a protocol for a future study, no empirical findings are available. Anticipated findings include quantitative measures of association, such as the odds ratio for ART interruption based on food insecurity status, and qualitative themes elucidating the lived experience of this relationship. The study will conclude whether a significant, independent association exists between food insecurity and ART interruption in this specific population. It will provide foundational evidence to

inform public health policy and interventions. Expected recommendations will likely target integrated service delivery, suggesting strategies for healthcare systems to screen for food insecurity within HIV programmes and to strengthen linkages with nutritional support services in urban informal settings. Food insecurity, HIV, antiretroviral therapy, treatment adherence, informal settlements, Namibia. This study will generate context-specific evidence on a key barrier to HIV treatment continuity in an under-researched urban African setting, directly informing the integration of health and social support services.

**Keywords:** *Food insecurity, Antiretroviral therapy adherence, HIV/AIDS, Sub-Saharan Africa, Urban informal settlements, Social determinants of health, Research protocol*

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