

sfroese@purdue.edu

"I have to accept that situation as a challenge": A Mixed-Methods Assessment of Correlations between Food and Water Insecurity among People Living with HIV in Peri-urban Dar es Salaam, Tanzania

Savannah L. Froese^{1,2}, Morgan Bonczyk¹, Cristiana K. Verissimo², Jim Kanani¹, Ramya Ambikapathi¹, Aloisia Shemdoe³, Victoria Kariathi⁴, Julieth Itatiro⁴, Crystal L. Patil⁵, Dalia AboAlsa¹, Ally Mangara⁶, Germana Leyna⁴, Mary Mwanyika-Sando³, Nilupa S. Gunaratna¹

¹Department of Public Health, Purdue University, USA ²Department of Nutrition Science, Purdue University, USA ³Africa Academy of Public Health, Tanzania ⁴Tanzania Food and Nutrition Centre, Tanzania ⁵Department of Human Development Nursing Science, University of Illinois Chicago, USA ⁶Muhimbili University of Health and Allied Sciences, Tanzania

Background & Research Gaps

- People living with HIV (PLHIV) face many health challenges exacerbated by food¹ and water² insecurity.
- 65% of people living in urban Tanzania do not have access to safely managed water³.



- Do food insecurity and water concerns co-occur among adult PLHIV living in peri-urban Dar es Salaam, Tanzania?
- How are water concerns expressed?

Research Aims

- Identify factors contributing to both food insecurity and water concern among adult PLHIV in peri-urban Dar es Salaam, Tanzania.
- Describe coping mechanisms related to food insecurity and water concerns.

Demographics from survey participants

Demographics of Respondents at Round 1		
Characteristic (at round 1) (N=316)		%
Female		75.3%
Age, Median (Q1-Q3) ^A	42 (34,49)	
Status as head of household		46.5%
Education		
Up to Standard 6		19.2%
Completed Standard 7 or higher		80.8%
Main source of drinking water		
Household tap		6.4%
Public tap/standpipe		9.0%
Protected dug well		59.6%
Unprotected dug well		5.8%
Bottled water		3.5%
Cart with small drum/bucket		5.1%
Tanker truck		10.6%
Household Food Insecurity		
Food secure or mildly food insecure		36.9%
Moderately or severely food insecure		63.1%
Experiences any water concern		28.2%
Water insecure, using HWISE cutoff		3.8%

Demographics of Participants in the Qualitative Interviews		
Characteristic	PLHIV (n=20)	Family Member (n=20)
Sex	12 females	14 females
Age ^A (years)	38 (30.8,45.8)	39.5 (28.3,44.8)
Education ^{A*} (years)	7 (7,11)	7 (7,7)
Marital Status	6 Married	12 Married
Relationship ^{**}	-	15 immediate family
HIV+	20	4

^A = Information is reported as median (Q1,Q3)

^{*} = education given in years according to the Tanzanian Education System

^{**} = Immediate family relationships in husband/wife, parent, child, or siblings

Methods

Diet, Environment, and Choices of positive living (DECIDE) study data

- Quantitative data from 316 PLHIV at two time points
 - Round 1: March-June 2019
 - Round 2: October 2019-February 2020
- Logistic regression to identify risk factors for experiencing food insecurity & water concern
- Qualitative data from 40 semi-structured interviews
 - December 2018 – May 2019

Water Concern

We define "Water concern": as affirming any experience of water insecurity (score ≥ 1) as measured by items from the HWISE tool⁴.



Food Insecurity



Food Insecurity: Using the HFIAS scale⁵, experience of moderate to severe food insecurity.

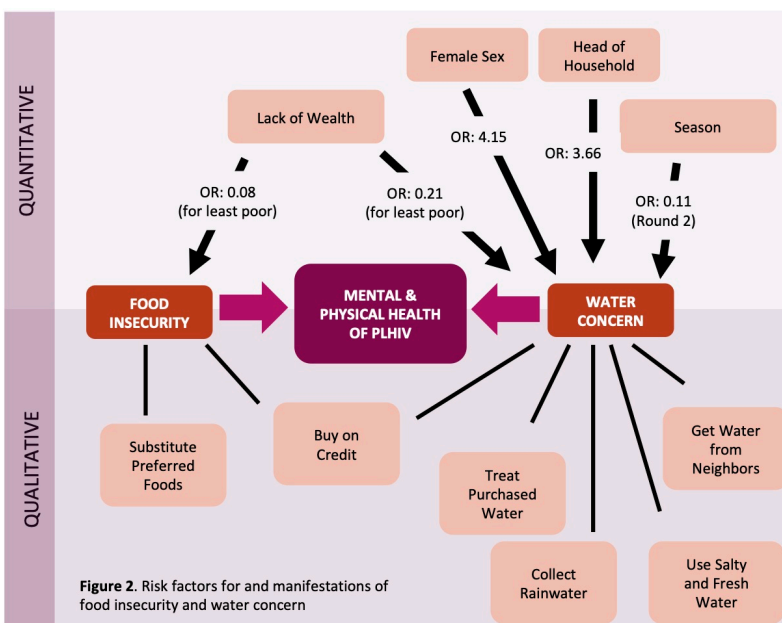
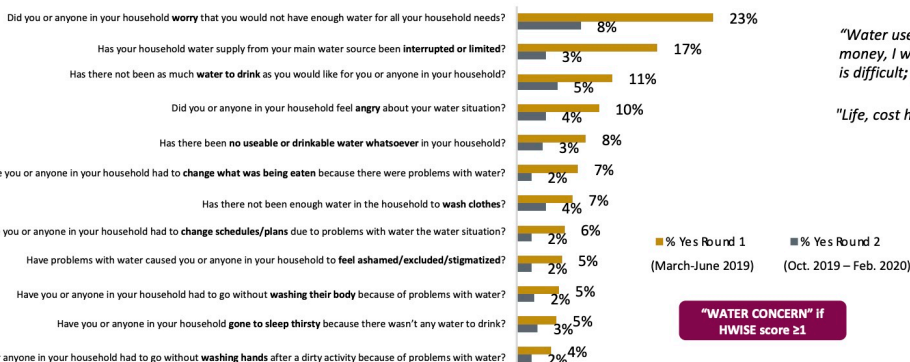


Figure 2. Risk factors for and manifestations of food insecurity and water concern

"Sometimes you want to eat meat but can't afford that so you are forced to eat what is available, but you don't enjoy but when you have money then you can eat what you want"

"I don't have water in my household; I go to a second house for fetching water drinking water. However, there is a nearby well [that] I use the water for washing dishes, washing clothes, watering vegetables, mopping toilet and other uses. I use [the] water tap only for drinking and cooking."



"Water use there is very important even now I was saying that if I get the money, I will connect into the system instead of carrying it on the buckets, it is difficult; it is very difficult."

"Life, cost has risen, the value of money is the same, but life cost has risen ..."



Food insecurity decreased from 63% to 57%



Water concerns decreased from 28% to 9%

Prevalence of experiencing both food insecurity + water concern decreased from 24% to 9%

Conclusions

- Many PLHIV that experienced food insecurity also expressed concern about water.
- As expected, low socioeconomic status or wealth was associated with both food insecurity and water concern.
- Physical access and safety drove water concerns, while food insecurity centered on economic access.
- Prevalence of water concern was more dynamic and changed more dramatically than food insecurity.

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