Urban food purchases, diets, and environments: Validation of a new food purchase pattern tool with dietary intake from the DECIDE study in peri-urban Tanzania


1 Department of Public Health, Purdue University, USA; 2 Department of Agricultural Economics & International Programs in Agriculture, Purdue University, USA; 3 Department of Nutrition Science, Purdue University, USA; 4 Tanzania Food and Nutrition Centre, Tanzania; 5 Department of Epidemiology and Biostatistics, Muhimbili University of Health and Allied Sciences; 6 Africa Academy of Public Health, Tanzania; 7 Department of Human Development Nursing Science, University of Illinois Chicago, USA

Presented by: Cristina K. Verissimo
Corresponding author: rambikap@purdue.edu

Background

- Urban populations rely on food purchasing as their main strategy for procuring food.
- Food purchases can constitute over 73% of all household expenditures in Tanzania.
- Among people living with HIV (PLHIV), nutritional status is a determinant of incidence and severity of HIV-related infections.
- Food purchase patterns can be used to study changing consumer preferences and diets, evaluate interventions, and estimate nutritional status.

- Gap: Very few studies have looked at how food purchase patterns are associated with diets and micronutrient adequacy, especially among low-income households.

Research Aims

1. Examine household food purchasing trends across two time points among people living with HIV (PLHIV) in peri-urban Dar es Salaam, Tanzania.
2. Develop and validate food purchasing metrics with dietary and nutrient intake.
3. Examine shopping patterns based on food purchasing.

Methods

Data

- Quantitative data from 288 PLHIV collected at two time points as part of the Diet, Environment, and Choices of positive living (DECIDE) study that took place in one community in peri-urban Dar es Salaam, Tanzania.
- Round 1: March-June 2019; Round 2: October 2019-February 2020
- 24-hour dietary recall collected at both rounds and recommended nutrient intakes (RNI) estimated.
- Data collected about 49 selected food items purchased in the last 7 days and frequency of purchase following.

Analytical Approach

- Food Purchasing and Lists
  - Let us know how many times you buy the following foods by yourself/household member and where did you buy it from?

49 food item purchase survey

- Validate with dietary micronutrient adequacy

- Latent class models to examine patterns

6 food groups

1. Dairy
2. Flesh foods
3. Fruit
4. Staples
5. Sugar-sweetened beverages (SSBs)
6. Vegetables

3 new metrics of food purchase

- Frequency: Average frequency of purchase across all items within a food group (0-7)
- Variety: Number of different types of food items purchased within a food group
- Purchase of staples

Results

- The top 5 most purchased items were:
  - Tomatoes
  - Sugar
  - Carrots
  - Rice
  - Polished flour

- The most frequently purchased items were:
  - Tomatoes
  - Carrots

49 food item purchase survey

- Overall, most participants bought food in the last 7 days in rounds 1 and 2 (85%, 81%, respectively).
- Most frequently purchased food groups in rounds 1 and 2: Vegetables (70%, 69%, respectively) and staples (66%, 68%, respectively).
- Food groups with the highest within-group variety: Vegetables (3, 1, 3, 4) items per week, median (IQR) for rounds 1 and 2, respectively.

4 food groups

1. 6 food groups
2. 3 new metrics of food purchase
3. Validate with dietary micronutrient adequacy

4. Analytical Approach
5. Validate with dietary micronutrient adequacy

References


Key Findings and Limitations

- Food purchases can be used to construct simple metrics that relate to micronutrient adequacy while also describing interaction with the food environment and changing consumer preferences and diets. A food purchase survey is easy to administer and can be done over the phone (with validation).

Limitations and Future Work:

- This tool did not collect information on quantity of food purchased, detailed food expenditures (data was collected on expenditures the previous day), household size, variety of within food group items, cooked food, and food was consumed away from home.
- Preliminary analyses have been conducted to explore food purchase patterns by food security status, and we plan to explore this further.
- A future version of the tool could be adapted to collect information on food consumed away from home.

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