

# PARTICIPATORY CO-DESIGN OF A HANDWASHING AND FOOD HYGIENE INTERVENTION IN CHIRADZULU, MALAWI

Dieudonné Bidashimwa<sup>1</sup>, Rachel Lenzi-Weisbecker<sup>1</sup>, Tracy Morse<sup>2</sup>, Kondwani Chidziwisano<sup>3</sup>, Ashwini Deshpande<sup>1</sup>, Julia Rosenbaum<sup>1</sup>, Ben Tidwell<sup>4</sup>, Simon Chima<sup>3</sup>, Gretchen Thompson<sup>1</sup>

AFFILIATIONS: <sup>1</sup> FHI 360, <sup>2</sup> University of Strathclyde, <sup>3</sup> Malawi University of Business and Applied Sciences, <sup>4</sup> World Vision

## BACKGROUND

Research on handwashing and food hygiene behaviors among caregivers in Malawi conducted by WASHPaLS #2 (Figure 1).

- Poor hand and food hygiene significantly affect infant and young children (IYC).
- Contextualized interventions provide better behavioral and health outcomes.
- Human-centered design (HCD) helps tailor interventions for improved acceptability, adoptability, and sustainability.
- WASHPaLS #2 project conducted multi-method HCD as formative research.
- Aimed to co-design HW and FH interventions for complementary foods for IYC aged 6-23 months in Chiradzulu, Malawi, to test in a two-arm Trial in Improved Practices Study (TIPS) (Figure 2).



FIGURE 1. Map of Malawi showing location of Chiradzulu District and district outline with TAs.

## METHODS

- HCD involves iterative steps to discover and refine challenges, co-create, prototype, and evaluate solutions with end-users.
- Study population: caregivers of IYC and household influencers in two Traditional Authorities in Chiradzulu.
- Conducted four product fairs followed by focus group discussions (FGDs) and four participatory human centered design (HCD) workshops.
- Participants attended product fairs introducing hygiene-enabling hardware and voted for their top choices.
- Follow-up FGDs were held to discuss choices and selection criteria.
- In participatory HCD workshops, participants were invited to further narrow down their selection of HW and FH products, share insights about their decisions, and recommend improvements.
- Used structured checklists, product feedback forms, and FGD debriefing templates for rapid analysis.



Figure 2. Participatory co-design methods

## RESULTS

Perceptions and practices of HW and FH behaviors:

- High awareness of cholera and other diarrheal diseases.
- Handwashing during complementary food preparation and feeding was limited to rinsing hands with water only.
- Ownership and use of enabling hardware was very limited and there were concerns that peers or friends would discourage their use out of jealousy or spite, although hygienic practices themselves were seen as acceptable and encouraged.
- Desirable product features: affordability/cost, familiarity, portability, durability/build, capacity of water container (for HW stations).
- Insights informed final set of enabling hardware included in TIPS in traditional (arm 1) & aspirational (arm 2) packages (Figure 3).

Table 1. List of enabling hardware selected during product fairs

Traditional options	Aspirational options
A two-tier outdoor rack with attached leaky tin	A two-tier wire rack
An indoor shelf	Bucket with a tap
A split bamboo mat with flour sack topper	Woven plastic mat
Bar soap	Bar soap
Child feeding kit	Child feeding kit

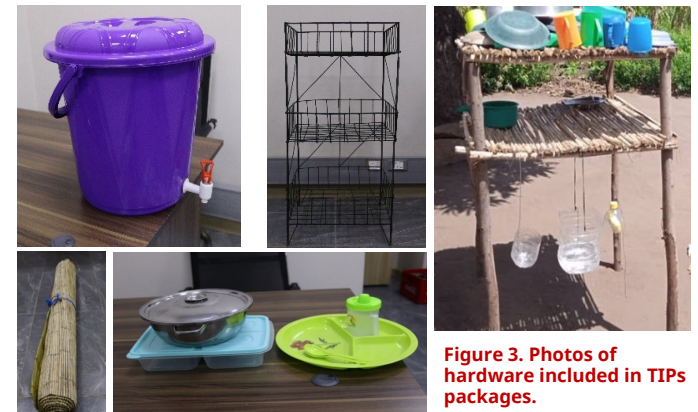


Figure 3. Photos of hardware included in TIPS packages.

## CONCLUSIONS

- Multi-method HCD approach utilized users' knowledge, attitudes, perceptions, and aspirations.
- Co-designed HW and FH intervention package tailored to southern Malawi.
- Diverse data collection methods used.
- Rapid data analysis and intervention adaptation/refinement between activities.
- Engaged potential users throughout the co-design process for successful implementation.

## RECOMMENDATIONS

- Multi-method HCD can co-design HW and FH interventions effectively.
- Ideal for programs designing locally-led, tailored interventions.
- Tailors to local socio-cultural contexts.
- Requires evidence on validity for future study applications.

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