CHALLENGES IN IMPLEMENTATION OF A COMBINED WASH AND FOOD HYGIENE INTERVENTION TO REDUCE DIARRHOEAL DISEASES IN CHILDREN UNDER AGE OF FIVE YEARS.

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Introduction

Recently published results of rigorously designed and evaluated WASH studies have shown minimal impacts on primary health outcomes, e.g. diarrheal disease. Reasons and speculation for these findings have been reported including the possible impacts of collective efficacy, social capital and the limitations of reporting systems[1-4].

Within this context, this poster outlines the methods used in an ongoing integrated WASH and food hygiene intervention study being conducted in Southern Malawi (Figure 1). This cluster randomized before and after trial with a control is being supported by the Sanitation and Hygiene Applied Research for Equity (SHARE) Consortium, and aims to determine the relative impact of a combined WASH and food hygiene study with a food hygiene study alone on diarrheal disease in the rural district of Chikwawa (Figure 2).

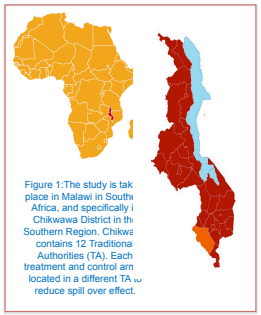


Figure 1:The study is tak place in Malawi in South Africa, and specifically i Chikwawa District in th Southern Region. Chikwa contains 12 Traditiona Authorities (TA). Each treatment and control arm located in a different TA w reduce spill over effect.

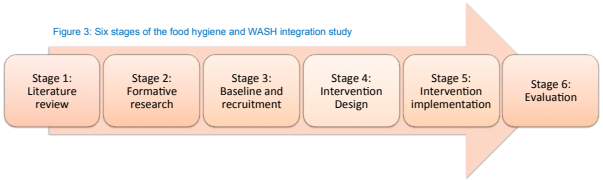
Figure 2: Outline of Intervention Population

Control Group	Treatment Group 1	Treatment Group 2
No Intervention n=200	Food only intervention n=400	WASH + Food hygiene intervention n=400

Methodology

The trial with a control is being undertaken in 6 key stages (Figure 3), with stages 1 – 3 forming the basis of the intervention development. To enable the intervention to consider all of the contextual factors (personal, social, environmental and psychosocial), extensive formative work was undertaken to understand these issues on an individual, household and village basis. The development of the intervention was therefore cognizant of the complex and multidimensional issues which could affect participation and sustained behavior change such as collective efficacy, social capital and shared agency within the target population.

Figure 3: Six stages of the food hygiene and WASH integration study



To achieve this, data was collected using a range of methods outlined in Figure 4.

Data was collated and analyzed to provide a detailed description of the individual, household, and village contexts and networks which needed to be considered and could impact on the intervention.

Primary and secondary outcomes to be measured during the intervention ranged from health impact to more specific areas of behaviour change, environmental changes, microbiological contamination at critical points and non WASH benefits (Table 1). These were to be measured in a number of ways including: self reporting; sampling, observations and questionnaires.

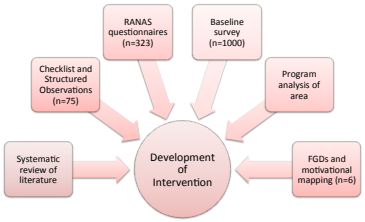


Figure 4: Mixed methodologies used to determine contextual factors which may affect intervention implementation and behaviour change

Outcome	Variable
Primary	Diarrhoeal disease
Secondary	Health • Eye infections • Acute respiratory infections
	Behaviors • Risks, Attitudes, Norms, Abilities, Self regulation
	Environment • Household changes
	Microbiological contamination • Food • Environment • Hands (critical times) • Stools (human & animal)
	Non WASH benefits

Table 1: Primary and Secondary Outcomes to be Measured

Results

Development of Intervention Delivery Method

The results of the systematic review provided specific methodologies and learning from previous studies on the efficacy of specific behavior change techniques on low income populations [5-6]. It also provided specific examples of interventions with Malawian culture which had successfully used social networks to achieve individual level behavior change with regard to maternal health[7].

When combined with the findings of the formative and baseline data collection, the research team had a full picture of the contextual issues which may influence the four critical areas (details published elsewhere) the intervention was aiming to address (Figure 5). Through FGDs and pre-testing it was agreed to label the intervention as the Hygienic Family (*Banja la Ukhondo*) to ensure inclusion of all family members and thereby increase the chance of sustained behavior change.

To achieve participation and sustained behaviour change the intervention delivery was therefore designed on 4 levels:

(1) Individual caregiver – through participation in cluster meetings and household visits with personal commitments to specific behaviours, to support the development of personal agency.

(2) Household – through participation in cluster meetings and household visits, particularly to ensure male participation as the primary decision maker at household level, and support the development of a common household vision.

(3) Caregiver network – through cluster meetings to develop social cohesion and social capital thereby creating a supportive and inclusive network.

(4) Village leadership – wider community activities celebrating achievements and reinforcing the approval and support of traditional leadership.

Figure 5: Four critical areas of the WASH and food hygiene intervention

Figure 6: The Hygienic Family (*Banja la Ukhondo)* intervention was developed with the inclusion of all family members to ensure those in a position to influence behavior adoption were included, e.g. men

Challenges in Intervention participation

- Participation of female caregivers in fortnightly cluster meetings was on average over 70% to date.
- Initial challenges were faced with participants expecting 'incentives' to participate. This was addressed through clear explanation of award systems as households progressed towards the '*Banja la Ukhondo*'
- Despite efforts made for inclusion of males in cluster meetings their attendance at critical points was less than 20%.
- Household visits on a fortnightly basis improved male inclusion due to participation during these meetings and discussions, nevertheless this was impacted by their profession and the seasonality as they may have been working in the fields at the time of the visit.
- Regular process evaluation meetings with community volunteers and health workers are held for early identification of factors affecting participation so that these can be addressed during the intervention.
- More effective mechanisms for male participation and buy-in need to be explored and considered for future interventions.



Figure 7: Cluster meetings primarily attended by female caregivers with low attendance by males and incentives provided in recognition of behavior change were provided as opposed to hand-outs

Data collection

- Primary outcome of diarrheal disease relied on self reporting of child illness both at the time of symptoms and in a monthly calendar (Figure 8). Samples from children were taken at the time of infection to test for target organisms.
- Low reporting of diarrheal disease in first month of intervention at the time of illness raised concerns, as the daily reported diarrhea did not tally with self reported calendars.
- Investigations revealed that caregivers did not want to be labeled as 'unhygienic' should their child have diarrhea and therefore did not report illness at the time.
- Reporting was addressed through further sensitization of participants on the benefits of reporting (i.e. diagnosis and treatment), and the addition of community health worker monitoring at village clinics through health passports .

Conclusion

Although the trial was designed to include a lengthy formative stage seeking to identify and address the potential social and individual barriers to intervention success, continuous monitoring of misconceptions during intervention implementation were integral to capturing unanticipated concerns and issues which may have impacted on the outcomes.

References

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