

Mikono Safi: Formative Research

August 2017

BRIEFING NOTE



Background

Infections caused by common soil transmitted helminths (worms), such as *Ascaris lumbricoides* and *Trichuris trichiura*, are frequent in childhood, and are associated with a range of health problems including malnutrition, and poor child and cognitive development. The burden of these infections among school-aged children is high in various parts of Tanzania. In Kagera region, it is estimated that more than 25% of school-aged children are infected with worms (Brooker et al, 2009). Worm infections occur when people ingest worm eggs after they have matured in the environment by eating raw, unwashed vegetables or by not washing their hands with soap after handling contaminated soil.

Current efforts to reduce the burden of these infections has focused on mass drug administration. In Tanzania, the national deworming campaign administers drugs to all school-aged children once every year. While generally cost-effective (Bartram, & Cairncross, 2010), mass drug administration does not address the root causes of infection - poor hand hygiene and eating raw foods. Further, re-infection occurs rapidly after treatment (Hall, Anwar & Tomkins, 1992). An integrated approach that combines hygiene behaviour change with deworming medication could prove an effective way to more sustainably reducing worm infections.

Objectives

The overall aim of the formative research was to develop and pilot a comprehensive hand hygiene intervention for use in schools and communities. Specific objectives of this study were:

a) To develop and/or adapt intervention modalities that address determinants of handwashing with soap in schools and homes; and to pilot the interventions to determine their feasibility and acceptability among students, parents and school staff.

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b) To iteratively refine intervention content and messaging strategies to optimise hand hygiene practices.

What was done

This study was conducted between September 2016 and April 2017 in Bukoba municipality, Kagera region. We selected three public primary schools that reflected the range of environmental and infrastructural conditions in the region. We assessed school-based interventions that addressed four aspects of handwashing services in schools: organisational support, motivational and/or emotional messaging, environmental modification, and parental engagement.

The **organisational support** consisted of providing key support to ensure the sustainable intervention provision among study schools. We worked with a range of school-level stakeholders, including head teachers, school staff, and school management committees. We focused on mobile phone text messages to school staff as reminders regarding handwashing service provision, support with budgeting and planning for handwashing activities, checklists for teachers to use in their daily activities, and duty rosters for school staff.

The **motivational and educational messaging** focused on emotional drivers to improve handwashing behaviours. These emotional and motivational factors were used in tandem with classical health education messages and were tested during the pilot period.

Environmental modification used “nudges” to trigger handwashing. This consisted of building new, robust handwashing stations in areas accessible to children. Further, we constructed bright, visible paths connecting toilets to handwashing stations and included other simple images designed to trigger handwashing.

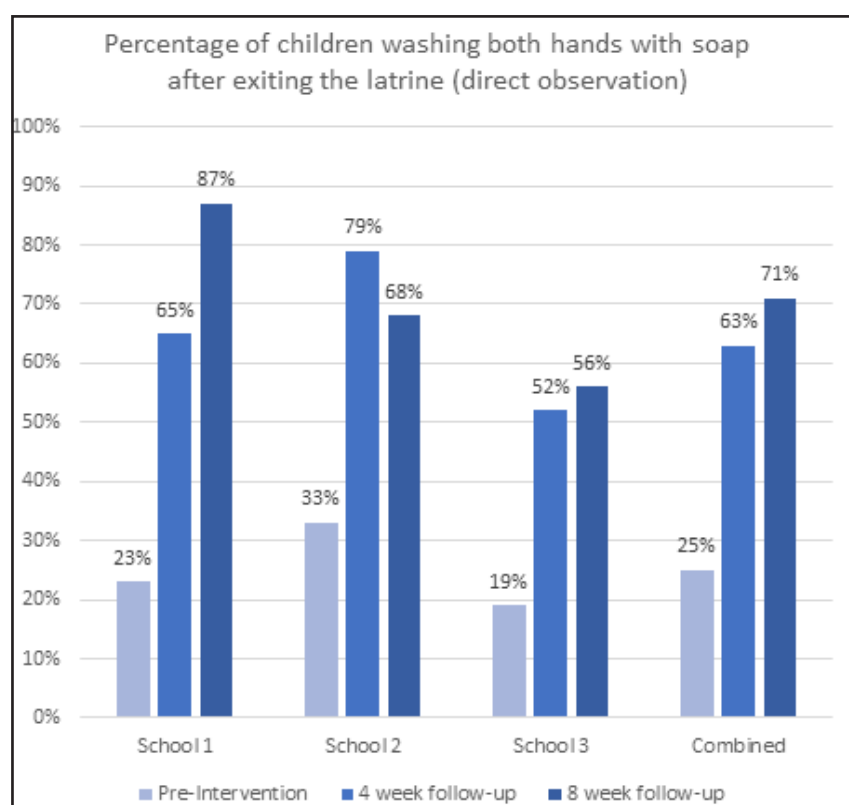
All schools received a pre-intervention screening for helminth infections and children that tested positive for helminths were treated with standard drugs used in Tanzania. Infection levels were recorded and findings communicated to the child’s parents along with details on how they can improve handwashing at home. This feedback was used for **parental engagement**.

Formative research data were collected in schools prior to intervention activities, during intervention roll-out, and 4 and 8 weeks following implementation. Data included in-depth interviews (IDIs) with children, teachers, and parents; focus group discussions with students and teachers, and direct observations of handwashing after leaving the latrines, and participatory implementation with students, teachers, and parents.

Key findings and implications for the main trial

Results from the pilot study show that handwashing with soap increased after the intervention. The proportion of children washing both hands with soap after exiting the latrine increased from 25% prior to intervention activities to 71% 8 weeks later (see graph).





Teachers reported that the students were happy to use the new handwashing stations as they were an exciting new technology. Children expressed a similar sentiment, adding that the new stations were preferable to tippy taps because they allowed the children to stay dry when washing their hands. The new stands were far simpler to use and caused no mess, which was a major incentive for children to use them at the proper times.

Information obtained from the interviews identified that children's perceptions of handwashing was closely associated with feelings of nurture, and lack of handwashing with feelings of disgust and fear. Educational materials, such as stories, games and activities were developed to incorporate these motives. Overall, children liked and understood the educational messages, and enjoyed the activities they involved. Children were able to recall the content several months after the sessions and students found the material fun and engaging, but further development of the materials is necessary to trigger the intended emotional/motivational response.

We also noted some successes with activities to engage parents. About half of parents who received letters attended information sessions where students' stool test results were presented. During the sessions, parents were active participants and were both interested in understanding test results and how they could improve hygiene in the home. Most parents found the information in the brochures and information about their child's infection rates easy to understand.

Our findings also indicate that we were successful in creating key support required to ensure sustainable intervention in the schools. District officials were supportive of the study and responsive



throughout the study period. Teachers and children were excited about the intervention and improved cleaning materials, and the school took responsibility for materials, collecting them at night and making them available in the morning. Furthermore, members of the Student Health Committee took on new responsibilities for monitoring the intervention at no direction from the project.

Challenges

We also faced some challenges which should be addressed ahead of the main trial. Incorporating hygiene promotion activities into school schedules and timelines was difficult - teachers were resistant to deviate from existing lesson plans. Due to time constraints, many teachers rushed through the delivery of lessons and activities on the day of implementation. Scheduling follow-up “booster” sessions was also difficult, partly because a well-structured teaching curriculum for each of the sessions was not available at that time.

Teacher engagement remained a challenge throughout the pilot period, primarily relating to different views on teacher compensation. Provision of water and soap for handwashing, while improved, remain inconsistent. This highlights the importance of coordinating with government officials to clarify that hygiene lessons are important part of school activities and to ensure that someone checks up with the schools while the research team is not present. For the main trial, it is very important that a set schedule is prepared for the booster sessions and that there is accountability on behalf of the teachers.

Many parents did not receive their invitation letters or other materials distributed by students. In some of the schools, finding space for the meetings was a problem necessitating some children being sent home early to empty a classroom for the parental engagement sessions.



Recommendations

1

Effective coordination

There should be an ongoing discussion between the research team, the District Education Officers and school administration to find the best way of incorporating hygiene promotion activities into school schedule.

2

Teachers' involvement

Other non-monetary incentives such as awarding the participating teachers a certificate of recognition should be explored to address the issue of teacher compensation. The research team will make deliberated efforts to plan ahead with respective teachers on when each of health education session should be taught, and this plan is clearly indicated in the school's teaching plan.

Recommendations

3

Parental engagement

Other ways of inviting parents such as use of SMS should be explored to be used with regular invitation letters to address issues of reaching parents.

4

Logistics

Finding venues for parents meetings should be further explored. It should be possible to use some school compounds or playgrounds for such meetings depending on the weather, and in some areas where community halls exist, the team could explore the possibility of using such venues for parents meetings.

5

Curriculum collaboration

The ongoing collaborative efforts between research team and school staff to develop a well-structured teaching curriculum for each of the in-class sessions targeting hand hygiene. This tool will enable teachers to standardise and structure the sessions.

Conclusion

The findings from this formative research helped to understand the factors influencing and constraining children's handwashing practices, and in developing a package of interventions to be tested in the upcoming main trial. Designing and conducting formative research is common practice for effective behaviour change interventions. These findings highlight that emotional triggers, including disgust, fear and nurture, play a role in motivating children's handwashing practices, which is consistent with results from other formative behaviour change studies (Biran et al, 2014). The recommendations provided in this report will help to inform and shape the main intervention trial.

References

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Contributors



This material has been funded by UK aid from the Department for International Development (DFID). However, the views expressed do not necessarily reflect the Department's official policies.

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