Handwashing in schools and households in La Mosquitia, Honduras

MEASURING HYGIENE BEHAVIOUR
Hygiene is the conditions and practices that help to maintain health and prevent the spread of diseases (WHO, 2013). Handwashing is important to prevent the spread of infectious diseases, like diarrhea, respiratory illnesses, and trachoma. Curtis and Cairncross (2003) estimated that washing hands with soap can reduce the risk of diarrheal diseases by 42-47%. As well, Fewtrell et al. (2005) showed that handwashing can reduce the incidence of diarrhea by 44%. Handwashing with water is good; handwashing with mud, soil or ash is better; and handwashing with soap is the best (Bloomfield and Nath, 2009; Luby et al., 2011).

Handwashing is about behaviour; changing handwashing practices means changing behaviour. Change can be difficult for many people. We all have routines and habits that we feel comfortable with and enjoy. It is hard for people – especially adults – to change a behaviour that we have been doing for most of our lives. Habitual behaviours are often learned at an early age. The longer someone has been practicing a behaviour, the harder it will be for them to change.

Knowing is not enough. Knowing why, how, and when to wash hands is no guarantee that people will actually do it. It is now understood that ‘educating’ people to practice good hygiene, because it has health benefits, will usually not result in long-term behaviour change. While good health may seem like an obvious benefit, it may not be as strong a motivating factor as other potential benefits. In a review of hygiene research studies from 11 countries, Curtis et al. (2009) found that the key motivations for handwashing include the following:

- **Disgust:** washing hands when they became contaminated with something dirty, foul or smelly; feces were found to be particularly repulsive
- **Nurture:** taking care of young children
- **Comfort:** being able to sense cleanliness directly, but also as a state of mind
- **Affiliation:** being a good member of society by joining in and by doing what everyone else is perceived to be doing

To learn about hygiene and handwashing behaviour in the Department of Gracias a Dios, Honduras, Agua Pura Para el Mundo and CAWST partnered with UNICEF to complete a Knowledge, Attitudes and Practices (KAP) study in the communities and schools of Puerto Lempira and Villeda Morales municipalities. The study collected and analyzed both qualitative and quantitative data from students, teachers, and parents from 12 selected communities.
The research and methodology

A set of indicators was developed which combines a KAP (Knowledge, Attitude and Practice) survey approach with the Risks, Attitudes, Norms, Abilities and Self-Regulation (RANAS) approach, in order to include a range of behavioural factors. Separate interview questionnaires were developed for students, teachers, and parents. Observations of the WASH condition in homes and schools were also made. A total of 190 students, 28 teachers, and 142 parents from 12 communities were interviewed. The selection of communities was based on degrees of difficulty of access (easy, moderate, and difficult access).

The study collected information on the following key aspects of handwashing in schools and communities:
- Knowledge around the importance of handwashing at three key times
- Proper handwashing practice
- Availability of soap or detergent to wash hands properly

The RANAS approach is an established method for identifying factors that influence behaviour, designing and implementing targeted behaviour changes strategies, and measuring the effectiveness of the strategies.
Figure 1 shows the RANAS model of behaviour change, which has four components:

- **Behaviour Factors:** Contzen and Mosler (2015) describe each of behavioural factor categories in the RANAS model as:
  
  "Risk factors: represent a person’s understanding and awareness of the health risk.
  
  Attitude factors: represent a person’s positive or negative stance towards a behaviour.
  
  Norm factors: represent the perceived social pressure towards a behaviour.
  
  Ability factors: represent a person’s confidence in her or his ability to practice a behaviour.
  
  Self-regulation factors: represent a person’s attempts to plan and self-monitor a behaviour and to manage conflicting goals and distracting cues."

- **Behaviour Change Techniques (BCTs):** BCTs are the parts of an intervention strategy that are designed to address and alter the behaviours. To be most effective, the BCTs should correspond with the behavioural factors found during investigation of the target population.

- **Behavioural Outcomes:** Behaviour refers to the execution of actions. The three behavioural outcomes considered in the RANAS model are: Behaviour, Intention, and Habit, and these are influenced by the combination of all of the behavioural factors.

- **Contextual Factors:** The contextual factors within the RANAS model acknowledge the influences that context has on behaviour. The model includes social, physical, and personal contextual factors.
Over 95% of students, teachers, and parents rated that handwashing is ‘very important’. The most common reasons given by each group of interviewees is summarized in the figures above. For students, teachers and parents, the most common reasons related to preventing sickness and eliminating bacteria. All groups also mentioned preventing parasites.

The 3 key times for handwashing defined by UNICEF are (i) before eating, (ii) before preparing food, and (iii) after defecating. Before eating was the most commonly remembered time for handwashing by all three groups. More than half of the students, teachers, and parents interviewed could remember 2 out of 3 of the key times, while only 3% of students, 15% of teachers, and 22% of parents could remember all 3 Key times.

Students, teachers, and parents also listed a variety of other times for handwashing, including after eating, after sleeping, after playing, before going to church, after working, after touching dirt. These are valid times for handwashing, but they are not the key times.

For proper handwashing practice, the following 5 steps are recommended by CDC 2013:

1. Wet hands and apply soap
2. Rubs hands to make lather, between fingers, back of hands, and nails
3. Continue for 20 seconds
4. Rinse hands with water
5. Dry on clean towel or air dry.

When asked to demonstrate handwashing, 26% of students, 54% of teachers, and 49% of parents completed all of the steps for proper handwashing. Most of the remaining interviewees completed 2 or more of the steps.
Handwashing stations showing signs of recent use were found in 6 of the 14 schools visited (40%), and only one of those had soap. This indicates that there is some over-reporting of handwashing frequency at schools (over 70% of students and teachers reported washing hands more than once per day at school). Similarly, for homes, more than 90% of students and parents reported washing their hands more than once per day, however only 75% of homes were observed to have handwashing places that appeared to be recently used. It is common in studies such as these for respondents to answer with what they think the interviewer would prefer to hear, and this is why the observations are also important. There was quite a bit of variance between homes in the 12 different communities, with the percentage of homes visited with a recently used place for handwashing varying between 50% - 100%.

The results show that there is a lack of well-maintained handwashing infrastructure, particularly in schools, and to a lesser extent, in homes. Nevertheless, only 7% of parents and 17% of students said that there are barriers to practising proper handwashing in their community. A greater number of teachers, 39%, said that there were barriers to proper handwashing, indicating that there are more barriers to handwashing in the school than in the home.

Generally, within the communities there was satisfactory handwashing knowledge and attitudes that handwashing is important. However, the observations showed that the knowledge and attitudes did not translate to a satisfactory level of handwashing practice. Lack of handwashing infrastructure in schools and houses was observed, and students were observed eating lunch at school without having washed hands.

From these observations, it was clear that handwashing with soap is not practiced regularly throughout the communities. There were some key gaps identified in the RANAS behavioural factors which may explain this. The perceptions of interviewees about how many people wash their hands regularly in the community was particularly low, which indicates that regular handwashing is not a strong social norm in the communities. Social norms can be an important behavioural factor, as the expectations of others can influence an individual’s behaviours. Interviewees identified a range of barriers to handwashing, including a lack of materials needed for handwashing, a lack of habit in the community, and a lack of care for infrastructure that has been installed in the past.

Figure 3: Percentage of students, teachers, and parents who can demonstrate acceptable handwashing practice
If handwashing is seen by individuals as very important with a reasonable level of knowledge and ability, at least in adults, yet observed proper practice is so uncommon, it can be inferred that other factors are more important in habituating proper handwashing practice.

It could be argued that the lack of handwashing infrastructure is a significant barrier to practice, however this was not recognised by the survey respondents. If lack of infrastructure is not perceived to be a barrier, then perhaps projects that focus on the construction of handwashing facilities in schools and households will not achieve affect the desired handwashing behaviour change, although the lack of handwashing infrastructure has been shown in other studies to be of significance in handwashing behaviour.

The finding that other barriers, such as a lack of care for existing infrastructure and lack of habit in the community, as a social norm, raises questions on how project implementation has been done in the past and for future interventions. Whilst maintenance and repair of existing facilities is often seen as of secondary importance and donors and administrators have a preference for new infrastructure to show investment and progress, the lack of consumables and materials to use for handwashing seems to be a greater barrier. Similarly, less emphasis is often placed on creating and nurturing handwashing as a social norm than other behavioural change factors.
Conclusion

Whilst the findings of this study may be in line with some other studies examining hygiene related behaviour, the data collected serves to quantify measurable factors for each of the study groups and provide evidence for decision making and priority setting. Of particular note is the disparity in knowledge and apparent attitudes, as compared to observed practice. This may be explained partly on infrastructural grounds, but the low level of habitual practice points to other behavioural factors such as social norms, ability, and self-regulation.

References


