RANAS We Understand Behaviour Change | SPIN-OFF of Eawag

Understanding behavioural determinants for cholera prevention to design more effective health and WASH packages – Ghana case studies

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With the overall goal of Cholera prevention through safe behaviours, an extensive qualitative study identified and refined the exact target behaviours which were safe water, safe food and safe sanitation behaviours. A pilot project in Ghana aimed at those target behaviours through a systematic behaviour change campaign based on the RANAS model. The RANAS campaign was tailored to the motivators and barriers, so called behavioural factors, that were found to be relevant in the communities and proved to be more effective than standard approaches: The target behaviours safe water, safe food and safe sanitation could be improved by 4 to 16% in frequency, habit and intention, compared to a comparison group which has not yet received the intervention at the point of the endline survey.

Context

Between September 2019 and March 2022, we realized a formative research project in the greater Accra Area, Ghana. In collaboration with the Ghana Red Cross, the International Red Cross and Red Crescent Federation, funded by the Wellcome Trust foundation, aimed at furthering the understanding about Cholera prevention.

Objectives

The main goal of this study was to broaden the understanding of Cholera prevention by using the RANAS approach to systematically plan and improve hygiene behaviour change interventions based on research results. Specific research questions were:

1. What are the motivating and inhibiting factors that influence the different WASH behaviours that can prevent cholera?
2. How can the identified factors be addressed most efficiently, effectively, and sustainably with behaviour change interventions?
3. How and to which extent does the targeted behaviour change through the different interventions?

What motivates Cholera prevention?

Firstly, a qualitative analysis was realized with Focus Group Discussions and qualitative interviews. This led to the identification of three main target behaviour groups:

1. Safe water (defined as handling drinking water): cleaning and covering the water storage device (WSD), cleaning the water handling utensils, handwashing before handling water and/or not touching the drinking water.
2. Safe food consumption: cleaning hands and food before cooking, covering food, cooking it in clean appliances and surroundings.
3. Safe sanitation: toilet use (reduction of open defecation), handwashing after defecation.

We identified, measured, and determined current practices of those target behaviours and their behavioural factors (RANAS phases 1 to 3):

- 60 qualitative interviews were conducted in December 2019.
- A quantitative baseline survey was conducted by 15 data collectors in 1108 households in 11 different locations in and around Accra in January 2020.
- Behavioural factors influencing the target behaviours were identified by a doer/non-doer statistical analysis.

Safe water: health knowledge, confidence in performance, confidence in maintenance, action control, and commitment.

Safe food: belief about benefits, feeling anxious, other's (dis)approval, respect, personal

Partners: Ghana Red Cross Society, International Federation

Funding: wellcome trust

importance, action knowledge, confidence in performance, confidence in maintenance, and confidence in recovery.

Safe sanitation: cost-benefit beliefs about comfort and time, feelings of shame and liking, communication frequency, communication with children, and commitment.

How did we design the campaign?

Based on the behavioural factors identified with the doer/non-doer analysis, behaviour change techniques (BCTs) were selected from the RANAS catalogue of BCTs. Together with our local partner, a contextualized behaviour change campaign was developed with the following elements (RANAS phase 4):

- Several **slogans** were developed, e.g. "clean water storage = safe water", "Live well: Eating safe food earns you good health and respect" or "Talk with your children about always using a toilet".
- Overall, **communication channels** were: Community meetings, household visits, community centers, mass media (e.g. radio, TV, loudspeaker vans), support groups, and distribution of materials (e.g. commitment posters, calendars, buckets and lids).
- BCTs chosen for **safe water** were: Present facts (BCT 1), present scenarios (2), demonstrate and model behaviour (17), reattribute past successes and failures (24), prompt (self)-monitoring of behaviour (27), highlight discrepancy between set goal and actual behaviour (29), and prompt goal setting (35).
- BCTs chosen for **safe food** were: Inform about and assess costs and benefits (BCT 5), describe feelings about performing and about consequences of the behaviour (8), prompt identification as role model (14), provide a positive group identity (13), provide instructions (15), use arguments to bolster self-efficacy (22), reattribute past successes and failures (24), and prompt coping with relapse (25).
- BCTs chosen for **safe sanitation** were: Describe feelings about performing and about consequences of the behaviour (8), inform about and assess costs and benefits (5), prompt to talk to others (7), and prompt to agree on a behavioural contract (36).

Did the campaign change behaviour?

Ghana Red Cross implemented the campaign. The evaluation of the behaviour change showed (RANAS phases 5 + 6):

- An endline survey measured the target behaviours and their behavioural factors in 1190 households of all 11 locations in February 2022.
- The RANAS behaviour change campaign was implemented in 6 of the 11 locations by 40 promoters, while the other 5 locations received the campaign after the endline survey.
- A data analysis compared the 6 locations of the RANAS campaign with the comparison group.

Safe water: The RANAS campaign led to an increase of 10% in frequency in WSD cleaning, 15% increase in habit for cleaning the WSD, 10% increase in habit for covering the WSD, and 10% for cleaning the utensils.

Safe food: The RANAS campaign led to an increase of 8% in habit for handwashing before preparing food, 8% in habit for preparing food safely and 6% increase in intention to eat safely prepared food.

Safe sanitation: The RANAS campaign led to a 16% increase in toilet use for defecation, 4% increase in habit for using a toilet as well as for handwashing after defecating, and 4% for intention to use a toilet.

The results were obtained comparing those persons who indicated to have received the campaign with those who had not. We had found that not only participants in the RANAS group had received RANAS campaign activities, but also some in the standard campaign group. Results thus had to be displayed using the intervention check questions rather than being divided by areas, as initially planned.

Conclusion

The RANAS campaign effectively increased safe water, safe food and safe sanitation behaviours. The data-driven and evidence-based campaign design with the RANAS approach can therefore be successfully used to prevent cholera. Increased resources and efforts would, however, yield greater effects. Initial analysis and adaptation of interventions are recommended for upscaling and use in different areas.

Further information: Information on the RANAS model and practical approach; the Behaviour Change Techniques Catalogue and more fact sheets on the RANAS approach can be accessed on www.ranas.ch

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Please cite as: Mosler, H.-J. & Palacios, S.M. (2022). Intervention Fact Sheet: Understanding behavioural determinants for cholera prevention to design more effective health and WaSH packages – Ghana case studies. Zurich, Switzerland: Ranas Ltd.