How to change handwashing behavior: infrastructural and commitment interventions in the Borana Zone, Ethiopia

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In Ethiopia, diarrheal disease is the second leading cause of death in children < 5.

Single most effective preventive measure: handwashing with soap at key times.

Problem: standard approaches to promote handwashing are rarely based on theory or evidence, have often been limited to raising awareness and providing knowledge, their effectiveness has seldom been verified.

Research question: how effective are handwashing interventions based on psychological theory and evidence in comparison to a standard intervention based on knowledge formation?

Four Kebeles in the Borana zone, southern Ethiopia.
Background

The Risk, Attitudes, Norms, Ability, and Self-regulation Model

- **Risk factors**
  - Information intervention
  - Persuasive intervention
  - Normative intervention
  - Infrastructural & ability interventions
  - Planning interventions & relapse prevention

- **Attitude factors**

- **Norm factors**

- **Ability factors**

- **Self-regulation factors**

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Evidence based selection of the handwashing interventions

- Information intervention
- Persuasive intervention
- Normative intervention
- Infrastructural & ability interventions
- Planning interventions & relapse prevention

Risk factors
Attitude factors
Norm factors
Ability factors
Self-regulation factors
Method

The interventions

- Norm factors
- Ability factors
- Self-regulation factors

Public commitment

Tippy tap promotion (and maintenance planning)

Base intervention: f-diagram exercise

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Method

Data collection

- Longitudinal design: before (T1) and after (T2) the interventions.

- 2-hours household observations ($N = 141$).
- Structured interviews ($N = 426$) with the primary caregiver:
  - socio-demographics
  - self-reported behavior
  - behavioral factors
Results

Tippy tap promotion – proxy measures

- Nearly all study households in villages 3 & 4 were successfully motivated to construct a tippy tap.
- Nearly all households which constructed a tippy tap recognized it as their designated place for handwashing.
- After 2-3 months of intervention termination, in 60-80% of the households water and soap were present at the tippy tap.

Handwashing interventions

Percentages of households having a designated place for handwashing at T1 and T2. FDiagram = f-diagram; PubComm = public commitment; TippyTap = tippy tap promotion; MP = maintenance-planning.
Results

Mean rates of observed feces-related handwashing at T1 and T2

* Handwashing rate was zero at T1.
Results

Mean changes in self-reported feces-related handwashing from T1 to T2

PubComm = public commitment; TippyTap = tippy tap promotion; MP = maintenance-planning; FDiagram = f-diagram.

Mean difference in change in handwashing: MD = 1.08, d = .80
Conclusions

- A designated place and facility for handwashing, which is a crucial prerequisite for habitualized handwashing, was successfully implemented.

- The F-Diagram-Only intervention had no influence on handwashing behavior.

- The Public Commitment-Only intervention had no influence on handwashing behavior. However, there is evidence to suggest that this specific intervention was not implemented strictly according to instructions.

- Both, the Tippy Tap Promotion and its combination with Public Commitment, have a substantial intervention potential.

- The combined intervention (Public Commitment & Tippy Tap) with Maintenance Planning has the highest potential.

- Interventions based on theory and evidence have a higher intervention potential than a standard intervention based on knowledge formation alone.
Thank you!
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Upcoming papers:


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