Observed practices and perceived advantages of different hand cleansing agents in rural Bangladesh: Ash, soil and soap

Md. Fosiul Alam Nizame
Assistant Scientist
WASH Research Group, icddr,b
fosiul@icddrb.org

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Background

• Ash, soil or mud is used as a hand cleansing agent in many countries

• Studies conducted in Bangladesh and India found that soil, ash and soap were similarly effective in removing fecal coliforms from hands

• Study conducted in 1991 found that people in Bangladesh considered soap as a beauty item, not a cleansing agent

• Limited data exists on current practices, and perceptions regarding advantages and disadvantages of different hand cleansing agents, specifically ash, soil and soap

Objectives

To explore:

• Rural community handwashing practices: frequency of handwashing agent use (ash/soil/soap) at different key times

• Current perceptions and barriers with regards to handwashing with different cleansing agents

• Which handwashing agents are actually used at specific times and why
Methods

• Observation study: 5 hour structured observations in rural households

  Frequency of handwashing with ash or soil or soap

• Qualitative investigation: 24 in-depth Interviews in rural households, which participated in observation study

  Current perceptions and barriers with regards to handwashing with different cleansing agents
Study areas and period

• Observations:
  - 100 clusters in 36 districts (out of 64)
  - July to August 2007

• In-depth interviews:
  - 3 clusters in one district
  - February to March 2009
Sampling

Observations:

• 100 randomly selected clusters by population proportion to size

• Enrolled households nearest to the cluster center point who had a child <5 years and skipped every 2 households until 10 households were sampled

• 1000 households in total

Qualitative:

15 female and 9 male adults conveniently selected from 24 households (communities that used ash and soil and soap)
Findings

• Population characteristics
• Observed handwashing practices
• Handwashing
  – Perceptions and practices
  – Facilitators
  – Barriers
Population characteristics

Observation:
• Mean 5.5 household members
• 45% households had electricity
• Approximately one-third of mothers and fathers had no formal education

Qualitative:
• More than half (14) had an electricity connection
• More than half (13) had no formal education
• All female informants described themselves as homemakers
• About half of the male informants were farmers
Observed handwashing practices: food

Before eating (N=7035)
- Handwashing with water alone: 48%
- < 1%

Before food preparation (N=1834)
- Handwashing with water alone: 50%
- < 1%

Before serving food (N=1717)
- Handwashing with water alone: 74%
- 1%

Before feeding (N=1684)
- Handwashing with water alone: 28%
- 0%
- 1%
Observed handwashing practices: fecal contact

- After defecation (N=349):
  - Handwashing with water alone: 61%
  - Handwashing with ash/soil: 13%
  - Handwashing with soap: 19%

- After cleaning a child that defecated (N=407):
  - Handwashing with water alone: 54%
  - Handwashing with ash/soil: 10%
  - Handwashing with soap: 27%
Findings from qualitative investigation
When respondents reported washing hands

• After:
  ✓ Defecation
  ✓ Cleaning a child who defecated
  ✓ Disposing of children’s feces
  ✓ Touching cow dung
  ✓ Spraying pesticides in the field
  ✓ Cleaning utensils
  ✓ Waking up in the morning

• Before eating meals
• When saw dirt on their hands
Why washed their hands?

• Dirty hands made them feel bad/disgusted

• To remove germs to protect from illnesses like diarrhea, dysentery and worm infestation.

"If my hands are dirty, germs can enter the stomach and I will fall ill."

55 year old male

• As part of performing ablutions in the practice of Islam.

“We follow handwashing practices to clean our hands prior to prayers to observe religious order.”

37 year old male
Agents used to wash hands

- Most used only water, which they felt was sufficient to clean hands
- Ash and soil were used only after defecation and after cleaning a child's anus/feces

"I use ash after defecation because it cleans hands like soap, but it cannot be used for other purposes; can you wash your face with ash? I even do not wash hands with ash before eating."

24 year old female
• Most informants report using bar soap for bathing and laundry

• When there was just a sliver of soap remaining, they pasted it on the wall of the latrine or on a tree near the water source and used it for washing hands after defecation (some informants)
Perceptions about handwashing agents

- Soil or ash cleans hands as effectively as soap (most informants)

"What can be better than soil? God has created us from soil and one day we will go back into it."

60 year old female

- Soap is a modern product that cleans visible dirt, removes germs and bad odors

"Soap itself is a clean product, factory produced matter. So, I like it for my handwashing."

25 year old male
Facilitators and barriers

✓ Ash is freely available from traditional cooking stoves (fuels include fire wood, cow dung stick, leaves, straw)

✓ Soil is also available in rural courtyards

✗ High cost of soap reduced use (most informants)

"We are poor, we could not use soap for all purposes. The bathing bar is used once a day for bathing, we cannot use soap more than that."

26 year old female

✗ Soap kept inside living room in a safe place to reduce misuse (most informants)
Handwashing places are generally located outside the household, in an open place.

"I feel inconvenienced to bring soap from my room; we do not keep soap in handwashing place."

26 year old female

Overburdened with household chores, and do not feel motivated to wash their hands

A typical rural household: latrine and handwashing station situated separately and away from the house.
Conclusion

• People generally wash hands with only water

• After decades of promoting handwashing with soap after fecal contact, a similar proportion of rural Bangladeshis were using ash or soil compared with soap

• Although communities consider soap a modern and effective cleansing agent, using it for handwashing still remains uncommon

• Soap is expensive and is kept inside their homes
Implications for designing interventions

• Encourage placement of low-cost options such as soapy water (detergent powder plus water) at handwashing locations to address reported barriers to using soap (cost and inconvenience)

• Focus on achieving religious purity and eliciting disgust feelings as a potential strategy
• Interventions should neither recommend nor discourage using ash or soil to wash hands

• Continue promoting use of soap to wash hands, as it remains the handwashing agent with evidence of health impact

• Messages could stress the importance of handwashing with soap even when hands look clean
Study team

ICDDR,B Investigators
• Aasma Afroz
• Amal K. Halder
• Sharifa Nasreen
• Shaila Arman
• Dorothy Southern
• Emily Gurley
• Eduardo Azziz-Baumgartner
• Mohammad Abdul Kadir
• Leanne Unicomb
• Fosiul A. Nizame

Data collection team:
• Research Officers
• Research Assistants

Collaborators:

Stanford University:
• Stephen P Luby

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• Peter Winch

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