



Supportive Environments for Healthy Communities

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For Global Handwashing Day 2012, this Weekly issue contains a literature review of 2012 handwashing studies that was compiled by the [Global Public-Private Partnership on Handwashing](#). The review summarizes studies on the health impacts of handwashing, handwashing behavior, hand contamination and provides recommendations for implementers of handwashing programs.

Periodic Overview of Handwashing Literature: Summary of Selected Peer-Reviewed and Grey Literature, January – June 2012. Prepared for the Global Public-Private Partnership on Handwashing with Soap (PPPHW) by: Jelena Vujcic (University at Buffalo), Pavani K. Ram (University at Buffalo), Dan Campbell (WASHplus), Katie Carroll (FHI 360).

HANDWASHING & HEALTH OUTCOMES

- In a refugee camp in Kakuma, Kenya, using a matched case-control study design, Mahamud and colleagues found that persons with cholera (cases) were 75% less likely to report handwashing with soap than those who did not have cholera (controls)[1].
- *Take-away for implementers:*
Handwashing with soap may prevent cholera. In this study, handwashing was measured using self-report, which typically overestimates observed handwashing behavior. Also, case-control studies cannot establish cause and effect.

FACTORS THAT AFFECT HANDWASHING BEHAVIOR

Recent work from Kenya[2], Vietnam[3], Peru[4], Senegal[4], and Bangladesh[5] has provided the following insights on handwashing behavior determinants:

Facilitators

- In Kenya, disgust, nurture and comfort were identified as main motivators for handwashing among caregivers while justification (the need to wash off germs that

cause disease), fun and fitting-in emerged as motivators among school children[2].

- In Kenyan schools, teachers serving as role models and active participants in promotion, and giving verbal reminders of importance of handwashing were facilitators of student handwashing[2].
- Presence of a convenient handwashing place with soap and water was reported as an important facilitator of behavior (Kenya, Vietnam) and may serve as a physical reminder (Vietnam)[2, 3].
- Based on data from Peru and Senegal, beliefs about soap, and access to soap and water were correlated with having soap and water at a designated place but the results were inconsistent when compared to different handwashing behavior proxy measures[4].
- Different factors (i.e. facilitators and barriers) influence different junctures so program managers need to be clear on what behavior they want to improve and ensure that formative research is specific enough in how it analyses it[4].

Barriers

- In Kenyan households, barriers to handwashing with soap included: lack of soap for the purpose of handwashing (because other activities like laundry, washing dishes and bathing are given priority); excessive household work load; lack of a designated place for handwashing and easy access to soap; long distance between toilet and water; perfumed soap (tainting/affecting the taste of food)[2].
- In Kenyan schools, placement of handwashing facilities (too far from toilet or not on the way to/from the toilet), impractical facilities for children (ex. sink out of reach), overcrowding, lack of water drainage and lack of support from teachers emerged as barriers[2].
- Most mothers knew hands should be washed before touching food but when mothers washed hands or washed their child's hands most did so with water only. Mothers deemed soap was needed only if the child's hands appear very dirty[5].
- Mothers reported the work load around the home, convenience to carry out the behavior, lack of autonomy, lack of support from household, and poverty were barriers to handwashing with soap[5].

Takeaway for implementers:

- Facilitators/barriers for handwashing among school children may be different than for caregivers. Understanding these determinants for the target population may help the implementer design a more relevant behavior change approach.
- Presence of a handwashing place with soap and water at key places around the household (ex. near food preparation or feeding/eating area) and structurally appropriate facilities are a key facilitator for practice.
- Increasing the priority of handwashing as an important/valuable use of soap may be a useful objective.
- Programs should address common barriers and work on problem solving skills either through group meetings among mothers, or home visits by peer educators.

- Consider expanding program to influential individuals such as husbands, older women in family and/or community support networks for lasting change.

A document disseminated by the SHARE consortium also provides guidance on how to promote handwashing (Grey literature)[6]:

- Elicit feelings of disgust, remind mothers to teach good manners (nurture) and making people feel that “everyone is doing it” to create a social norm.

HANDWASHING PROMOTION NESTED IN OTHER PROGRAMS

- Briere et al. reported that, in Kenya, distribution of hygiene kits during routine child vaccination positively impacted hygiene technique (women demonstrating correct handwashing technique increased from 25% to 51%) without a negative impact on vaccination coverage [7].
- Russo et al. reported improved hand washing technique (women demonstrating correct handwashing technique increased from 19% to 60%) among friends and relatives of women who received hygiene kits at antenatal care clinics; there was no direct handwashing promotion to the relatives/friends [8].
- Seward et al. reported that use of a Clean Delivery Kit was associated with a relative reduction of neonatal mortality (aOR= 0.52, 95% CI 0.39–0.68). However, when individual clean delivery practices were compared to child mortality, handwashing before assisting with delivery, on its own, had mixed associations with child mortality at the 3 country sites [9].

Takeaway for implementers:

- Handwashing promotion can be inserted in health related programs such as child vaccination, antenatal care, and safe delivery but research cited above does not provide enough evidence of behavior change and variable evidence for neonatal mortality.

USING BEHAVIORAL THEORY IN DEVELOPING HANDWASHING PROGRAMS/INTERVENTIONS

- A review of behavior change communication (BCC) methods that target 4 health behaviors in low and middle income countries (handwashing being one of those behaviors) reports that the most successful interventions used multiple behavior change techniques but that BCC strategies are rarely linked to behavioral theories and are missing from logic frameworks often used in programming [10].
- In a critical overview of challenges to changing health behaviors in low and middle income countries, Aboud and Singla recommend the use of multiple behavior change theories, setting guidelines for best practices, and evaluating the use of best practices [11].

Take away for implementers:

- Using behavior theories or their components should be included in logic frameworks but the authors do not explain how to integrate theory into practice. Defining reasonable approaches for implementers would facilitate such practices.

HAND CONTAMINATION

- A study of school children in Kenya indicated that handwashing promotion and water treatment intervention did not reduce risk of *E.coli* presence on students' hands. The addition of new latrines significantly increased risk of hand contamination among girls; the increase in hand contamination in boys was not statistically significant but a non-significant increase among boys [12].

Takeaway for implementers:

- New sanitation facilities may increase risk of hand contamination among school children, perhaps due to insufficient attention to provision of soap and water, or promotion of handwashing.

CITATIONS:

1. Mahamud, A.S., et al., **Epidemic cholera in Kakuma Refugee Camp, Kenya, 2009: the importance of sanitation and soap.** *J Infect Dev Ctries*, 2012. 6(3): p. 234-41.
2. World Bank (WSP), [Are your hands clean enough? Study Findings on Handwashing Behaviour in Kenya](#). 2012.
3. World Bank (WSP) [Vietnam: a Handwashing Behavior Change Journey for the Caretakers' Program](#), 2012.
4. World Bank (WSP), [Water and Sanitation Program \(Learning Note\), Behavioral Determinants of Handwashing with Soap Among Mothers and Caretakers: Emergent Learning from Senegal and Peru](#), 2012.
5. Affleck, W. and G. Pelto, **Caregivers' responses to an intervention to improve young child feeding behaviors in rural Bangladesh: A mixed method study of the facilitators and barriers to change.** *Soc Sci Med*, 2012. 75(4): p. 651-8.
6. SHARE, [Handwashing with soap: Why it works and how to do it](#), 2012.
7. Briere, E.C., et al., **Impact of integration of hygiene kit distribution with routine immunizations on infant vaccine coverage and water treatment and handwashing practices of Kenyan mothers.** *J Infect Dis*, 2012. 205 Suppl 1: p. S56-64.
8. Russo, E.T., et al., **Water treatment and handwashing behaviors among non-pregnant friends and relatives of participants in an antenatal hygiene promotion program in Malawi.** *Am J Trop Med Hyg*, 2012. 86(5): p. 860-5.
9. Seward, N., et al., **Association between clean delivery kit use, clean delivery practices, and neonatal survival: pooled analysis of data from three sites in South Asia.** *PLoS Med*, 2012. 9(2): p. e1001180.
10. Briscoe, C. and F. Aboud, **Behaviour change communication targeting four**

health behaviours in developing countries: A review of change techniques.

Soc Sci Med, 2012. 75(4): p. 612-21.

11. Aboud, F.E. and D.R. Singla, **Challenges to changing health behaviours in developing countries: A critical overview.** *Soc Sci Med, 2012. 75(4): p. 589-94.*
12. Greene, L.E., et al., **Impact of a School-Based Hygiene Promotion and Sanitation Intervention on Pupil Hand Contamination in Western Kenya: A Cluster Randomized Trial.** *Am J Trop Med Hyg, 2012.*

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