



Supportive Environments for Healthy Communities

The Theory and Practice of Habit Formation: Handwashing Applications

Orlando Hernandez, WASHplus, FHI 360

UNC Water and Health Conference

October 2014



LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



Panel Participants

David Neal, Catalyst Behavioral Sciences, PhD, Founder and Managing Partner

Lindsay Voigt, WaterSHED Cambodia, Project Manager and BC Specialist

Ai Huynh, WaterSHED Vietnam, Coordinator of Happy Tap Project

Jacqueline Devine, Water and Sanitation Program, Senior Social Marketing Specialist

Gaby Judah, PhD Candidate, London School of Hygiene and Tropical Medicine

Handwashing with Soap at Critical Junctures (Before food handling and after fecal contact)

- What do we need to track?
- Does it last?
- For how long?
- What makes it last?
- What are the programmatic implications?



Types of Sustainability

- **Institutional:** Can local partners continue to implement behavior change programs once a donor-funded program ends?
- **Individual:** Is a newly adopted behavior practiced correctly and consistently over time?

Evidence May Be Inconclusive

- Different programs
- Different measurements
- Different concerns

Study	Rural Mirzapur, Bangladesh (1996)	Karachi, Pakistan (2009)	Andhra Pradesh, India (2014)
Design	Quasi experimental Intervention vs control, 5 years after WASH project ended	Randomized control trial Revisiting intervention vs control households after 18 months of 9-month intervention promoting HW and POU	Randomized control trial Intervention vs control 6 weeks, 6 months and 12 months after the intervention
Indicators	<ul style="list-style-type: none"> Bacteria in left and right hands through hand rinses Connection between handwashing and health 	<ul style="list-style-type: none"> HW technique (use of soap, dual hand rub, lather, towel dry) Dedicated place for HW with supplies Amount of soap purchased Diarrhea prevalence 	Observed handwashing practices of all family members aggregated at the village level. Indicator is # of critical juncture events where handwashing was observed over the # of all critical events observed.

- 1) Roque PA et al. 1996. Sustainability of a water, sanitation and hygiene education project in rural Bangladesh: a 5-year follow-up. *WHO Bulletin*, 74 (4) 431-37.
- 2) Luby SP et al. 2009. Difficulties in maintaining improved handwashing behavior in Karachi, Pakistan. *Am J of Trop Med and Hyg*, 81 (1): 140-45.
- 3) Biran A et al. 2014. Effect of a behaviour-change intervention on handwashing with soap in India (SuperAmman): a cluster-randomized trial. *The Lancet*. Vol 2 e145-e154.

Study	Rural Mirzapur, Bangladesh (1996)	Karachi, Pakistan (2009)	Andhra Pradesh, India (2014)
Finding	Cleaner hands in intervention group but no connection between HW practice and health.	Better handwashing technique and prevalence of dedicated HW place with supplies in intervention area. But not sufficient soap and no diarrheal disease prevalence difference between study groups.	Observed handwashing was statistically higher in intervention villages at 6 weeks and 6 months, but not at 12 months. Observed handwashing continue to increase in intervention villages even 6 months after the intervention.
So?	It lasts because there are sustainable services.	It does not last. If no increase in soap purchases, no increase in soap use, no proper handwashing and no difference in health outcomes.	It may last. Use of emotional drivers to promote handwashing is effective in initiating practice. Increase in practice at 6 month interval may be due to reactivity or measurement bias. Delayed intervention effects may be hypothetically due to changes in social norms.

Reflective and ‘Reflexive’ Processes in Behavior Initiation and Maintenance: Key Determinants

	Behavior Change	
	Initiation Determinants	Maintenance Determinants
Reflective	Attitudes, social norms, self-efficacy, intentions	Satisfaction with behavior change
Automatic (‘Reflexive’)	Implicit attitudes Behavior primes	Habits

Rothman AJ, Sheeran P, Wood W. (2009) Reflective and automatic processes in the initiation and maintenance of dietary change. *Ann. Rev. Med.* 38 (Suppl 1): S4-S17. DOI: 10.1007/s12160-009-9118-3