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**Abstract**

# Impact of Multiple Hygienic Interventions on Caregivers' Behaviors in a Conflict Setting, Yemen: Cluster-Randomized Controlled Trial

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**Abstract**

**Background:** Several household hygiene programs have been implemented by the Ministry of Public Health and Population and international nongovernment organizations to reduce the risk factors related to child morbidity and mortality in Yemen. However, no research has been conducted to assess the impact of such interventions on caregivers' hygiene behavior. We therefore carried out a cluster-randomized controlled trial to assess whether such interventions could improve caregivers' hygiene behavior.

**Objective:** The study aims to identify the impact of hygiene promotion interventions on mothers' practices related to water, sanitation, and hygiene.

**Methods:** A 6-month cluster-randomized controlled trial was conducted in Hufash District of Al-Mahweet Province in Yemen from May to October 2015. In total, 20 villages were randomly selected and assigned to an intervention arm that received hygiene promotional interventions and a control arm. In total, 358 households were interviewed at baseline and the endpoint. A logistic regression model was fitted to data, and the adjusted odds ratio (AOR) was used to estimate the effect size of the intervention.

**Results:** The intervention made significant improvements in caregivers' handwashing after using a latrine (AOR 2.6, 95% CI 1.75-3.90) and before feeding the baby (AOR 1.8, 95% CI 1.14-2.92), safe disposal of child feces (AOR 2.0, 95% CI 1.35-2.53), covering of remaining food (AOR 1.1, 95% CI 1.08-1.19), cleaning of cooking utensils (AOR 1.27, 95% CI 1.08-1.51), and cleanness of drinking water storage containers (AOR 1.3, 95% CI 1.17-1.46). However, the intervention had no effect on caregivers' handwashing practices after cleaning child feces, before preparing food, and before eating a meal, as well as no improvement in cleanness of the floor of the kitchen.

**Conclusions:** The findings from this trial reveal the important role that hygiene promotion can play in improving caregivers' behaviors that could lead to better child health in high-risk communities where access to primary health care is limited.

**Trial Registration:** ClinicalTrials.gov NCT03810430; <https://clinicaltrials.gov/show/NCT03810430>

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**KEYWORDS**

hygiene; intervention; Yemen

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