

Key Food Hygiene Behaviors to Reduce Microbial Contamination of Complementary Foods in Rural Bangladesh

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Abstract. Microbial contamination of complementary foods puts young children at risk of developing intestinal infections and could be reduced by improved handwashing and food hygiene practices. We aimed to identify which promoted food hygiene practices are associated with reduced complementary food contamination in a rural population in Bangladesh. We collected cross-sectional data on reported and observed maternal food hygiene behaviors and measured *Escherichia coli* counts as an indicator of microbial contamination in complementary food samples from 342 children of women enrolled in the Food and Agricultural Approaches to Reducing Malnutrition trial in Sylhet, Bangladesh. We used multivariable logistic regression to examine associations of food hygiene behaviors with food contamination. Approximately 46% of complementary food samples had detectable levels of *Escherichia coli*. Handwashing with soap at critical times and fresh preparation of food before feeding were strongly associated with reduced odds of food sample contamination (odds ratio [OR]: 0.8, 95% confidence interval [CI]: 0.6–0.9 and OR: 0.3, 95% CI: 0.1–0.7, respectively); in contrast, there was no or only weak evidence that reheating of stored food, safe food storage, and cleanliness of feeding utensils reduced contamination. Reduction in food contamination could be more than halved only when several food hygiene behaviors were practiced in combination. In conclusion, single food hygiene practices showed limited potential and a combined practice of multiple food hygiene behaviors may be needed to achieve a substantial reduction of complementary food contamination.