**Food Hygiene Intervention to Improve Food Hygiene Behavior, Reduce Food Contamination and Diarrhoeal Diseases Burden in Kavre District of Nepal: A Formative Research**

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**Background**

Preventable and treatable food-borne diseases are a major cause of illness globally. Inadequate food hygiene is likely to cause a substantial proportion of foodborne infections including diarrhoea among infants and young children. Although proper food hygiene practices may prevent disease, there is little evidence to support this premise. Very few intervention studies have been carried out and there has been little effort to undertake food hygiene interventions for the reduction of childhood diarrhoea and malnutrition. A simple and replicable food hygiene intervention, which can be implemented by the WASH, health and nutrition sectors at scale has yet to be designed and tested.

**Methods**

The study is being conducted in the rural hill setting of Kavre District, Nepal. Altogether, 68 households with a mother having a child aged 6-59 months were included in the study. Various tools were used including observation of daily routines; 30 video recordings; 68 in-depth interviews/household surveys/observation; 11 focus group discussions; 5 ‘teach the researcher’ sessions; quantification of level of microbes (E.coli and Coliforms) in child food from 105 food samples and in milk (13 samples) and water (30 samples) at different times; and documenting critical and behavioural control points and mechanisms practiced by the mother.

**Results**

Food given to children in the afternoon comprised of leftover food cooked in the morning and often stored un-hygienically. Most mothers necessarily did not link their daily routine with the food hygiene behaviors because those are yet to be formed. Traditionally, female children are weaned at five months and male children at six months. Besides, commonly used food, mothers also fed other food such as dhindo, roti, dal, lito, khichari, breastmilk, fruits, and boiled eggs. Despite 94% of households owning soap, only 7% mothers used soap to wash hands before child feeding, and 16% cleaned serving utensils before serving food to children. Certain Tamang mothers washed cooking vessels/pot once a day but a few did so twice a day. None reported washing the milk storage container frequently (usually twice a month). A wooden spoon was used to mix flour while cooking dhindo but never washed; instead, remnants were peeled or scraped off before use. Mothers were multitasking while cooking, making cross-contamination of food. Certain food hygiene behaviors were performed ritually/habitually without awareness of the benefits. Only 6% knew the advantages of cooking food thoroughly. Cooking is done 2-3 times a day, but children are fed 4-5 times; hence all households fed leftover food to children. The majority of the households practice traditional cooking methods that result in food being thoroughly cooked. The majority (80%) of mothers fed the child using their hands by dipping their fingers in the food to mix it. Of 84 children, 39 (46%) were sick in the past month, of which 31% had diarrhea (24% had in the last week). Based on the above currently practiced behaviors, an intervention is designed around five behaviors: i) proper re-heating practices of stored food, ii) cleanliness of utensils used to serve a child’s food, iii) hand washing with soap before touching any cooked/stored food, before feeding a child (mother) and before eating (child), iv) proper storage of cooked food, and v) boiling milk and water before serving.

**Conclusions**

While designing an intervention, the objects associated with each behavior, the physical, biological and social environment, and the motives behind each practice should be taken into consideration.

**Keywords:** behaviours; children; diarrhoeal diseases; food hygiene; formative research; mother; microbes.