HYGIENE INTERVENTION REDUCES CONTAMINATION OF WEANING FOOD

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PRESENTATION OUTLINE

I. CONTEXT/JUSTIFICATION
II. DEVELOPMENT USING HACCP
III. TESTING THE INTERVENTION
IV. REPLICATION; BANGLADESH & NEPAL
V. RECENT DEVELOPMENTS/PERSPECTIVES
CONTEXT/JUSTIFICATION

• Diarrhoeal diseases mainly kill children under five years in developing countries;

• Diarrhoea control thus needs to stop young children ingesting pathogens;

• Weaning foods are usually more heavily contaminated than drinking water;

• Weaning food hygiene deserves high priority.
EXPERIMENTAL STUDY, TO DEVELOP INTERVENTION

• 15 mothers of children aged 6 to 36 months;

• Selection of 2 commonest weaning foods - moni & fish soup;

• intensive observation of food preparation and handling hygiene;

• Implementation of HACCP Method.
Fish Soup flow diagram

Legend

- Initial contamination
- Hand contamination
- Utensils contamination
- Ingredient contamination
- Water contamination

1. Purchasing fish and vegetables
2. Washing and cleaning fish and vegetables at home
3. Cooking soup
4. Cooling soup
5. Meal storage
6. Feeding child
PILOT STUDY, TO TEST THE INTERVENTION

60 mothers; 30 Intervention, 30 control; 3 weeks’ training for intervention group; samples examined for faecal coliforms.

**Intervention key messages:**

- Reheating meals to boiling point, even if for only a few seconds;
- Handwashing with soap after faecal contact and before handling food;
- Running water and soap to wash dishes
FC CONTAMINATION OF INTERVENTION GROUP’S FOODS AT THE END OF THE INTERVENTION

FC contamination in Moni at the end of the intervention

<table>
<thead>
<tr>
<th>CCP</th>
<th>After cooking</th>
<th>After reheating</th>
<th>After cooking</th>
<th>After storage</th>
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<tbody>
<tr>
<td>Intervent.</td>
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<tr>
<td>Control</td>
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Geometric mean FC/g
LESSONS LEARNT FROM THE INTERVENTION

• The intervention was very effective in FC contamination reduction; it resulted in a very high performance in meeting the quality standard of less than 10 fcu/g;

• Behaviours acquired lasted for at least three months after the intervention.
REPLICATION STUDY

- Bangladesh, rural setting;
- Copied Bamako protocol with 2 local weaning foods (Suzi & Khishuri);
- Same result!
- *The method has already been integrated into the National Diarrhoea Prevention Strategy of Bangladesh (Dr S. Islam, ICDDR,B)*
INTERVENTION IMPACT ON BACTERIOLOGICAL WEANING FOODS SAFETY

![Graph showing bacterial counts before feeding for study and control households.](image-url)
Recent developments, future perspectives

• Replication in Nepal:
  - at District scale, reduced cost to US$ 17 per mother (Om Gautam);
  - Impact on diarrhoea incidence discernible, though study under-powered.

• In the Gambia:
  - Similar study due soon (Buba Manjang, Ministry of Health) & University of Birmingham;
  - Unicef Gambia considering implementation at national level.

Photo credit: Om Pd Gautam, DCD/ITD, LSHTM
CONCLUSION/RECOMMANDATION

• The HACCP Approach is effective in FC contamination reduction through hygiene intervention;
• Behaviours acquired last for at least three months after the intervention.
• These very encouraging findings need to be translated into Health Education Programs’ guidelines;
• The Approach reserves to be scaled up to assess its impact in diarrhoea prevention/reduction.
THANK YOU VERY MUCH FOR YOUR KIND ATTENTION