GASTROENTERITIS
ASSESSING THE KNOWLEDGE GAP AND PRIMARY PREVENTION WITH HANDWASHING

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Diarrheal Diseases
- Second leading cause of death in children worldwide (WHO)
- Systematic review of diarrheal disease in children and adults in low and middle income countries (Lamberti et al 2012)
  - Severity of diarrheal disease mild in patients >16
  - Total number of episodes estimated at 21.5 million = significant disease burden

Diarrheal Disease Burden in Ghana

Study Aims
- Assess knowledge of gastroenteritis
- Assess current hand and food hygiene practices
- Promote Primary Prevention of Diarrheal Disease via Handwashing

Axim Accidents and Emergency
- One of the most common reasons for visits to the A&E is gastroenteritis like symptoms
- Most common etiology identified by the healthcare providers is bacterial
  - diagnosed primarily via clinical picture
  - Attributed to poor hygiene amongst the community

Methods
- Review of Records in the Accidents and Emergency Department from September 2013 to March 2014.
- Qualitative and Quantitative Cross Sectional Study with random sampling of patients at the OPD and members of the community. Semi structured interviews conducted with 24 people. Ages ranged from 15 to 57.
Question Guide

- Is there soap in the home?
- Is there a place where water and soap are readily available?
- Has anyone in your home had diarrhea in the last 3 months?
- Describe your practice of handwashing
- How do you access water?
- Define diarrhea
- What comes to mind when you hear the words vomiting, abdominal pain, nausea, diarrhea and how would you react?

Gastroenteritis at AGH: Accidents and Emergency

Second Most Common Diagnoses in A&E within 7 months

<table>
<thead>
<tr>
<th>Month</th>
<th>Number of Gastroenteritis Cases</th>
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<tbody>
<tr>
<td>September 2013</td>
<td>36</td>
</tr>
<tr>
<td>October 2013</td>
<td>44</td>
</tr>
<tr>
<td>November 2013</td>
<td>28</td>
</tr>
<tr>
<td>December 2013</td>
<td>23</td>
</tr>
<tr>
<td>January 2014</td>
<td>22</td>
</tr>
<tr>
<td>February 2014</td>
<td>17</td>
</tr>
<tr>
<td>March 2014</td>
<td>38</td>
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</tbody>
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Results

- A&E Records Review
- 14% of A&E visits for gastroenteritis admitted to wards

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>&lt;5 years old</td>
<td>2.4%</td>
</tr>
<tr>
<td>5-12 years old</td>
<td>6.25%</td>
</tr>
<tr>
<td>&gt;12 years old</td>
<td>91%</td>
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Gastroenteritis Management

Quantitative Analysis

- Is there soap in the home?
- Is there a place where water and soap are readily available in your community?
- Has anyone in your home had diarrhea in the last three months?

Qualitative Analysis

- Hand Hygiene
- Food and Cooking Hygiene
- Perception of Diarrhea
- Understanding/Perception of Gastroenteritis like scenario
Describe your practice of handwashing
Soap and water 15
Soap, sponge, and water 1
Wet hands with clean water, pour liquid soap, then rub palms together, wash in between fingers, then rinse 2
Take soap, rub in palms, rinse in water 6

Results

Community Education on Proper Handwashing and safe cooking practices
Introduction of Tippy Tap
Based upon Uganda school study
Intervention schools in Uganda received a tippy tap with an educational program,
- Rise in handwashing at school and after using the bathroom
- Percentage of students reporting no stomach pain increased from 7% to 80%
- The headmasters at two primary schools and one junior high school in Axim approached about demonstration of proper handwashing

Tippy Tap
Simple hand washing device
- Tools: Bamboo or wood, gallon/jug, rope, soap
- Cost effectiveness
  - Construction cost equivalent to US$2 + market cost of soap vs Veronica Bucket US$18
  - Useful in water scarce areas-- 40-50 ml of water dispensed on average for each hand wash
**Community Outreach**

**Responses to Community Intervention**

- “If I’m on the street and hungry and would like to buy food where there isn’t water or soap available, what should I do?”
- “The food vendor may only serve dishes with one plate and utensil that is reused for other customers”
- “Can I drink sea water if I don’t have salt or sugar to make ORS at home?”
- “We are treated badly when we go to the hospital and are not encouraged to do so.”

**Limitations**

- Study sample size not adequate for assessment of quantitative questions
- Interpreter Bias
- Wording of Questions
- Knowledge of rotavirus vaccine not assessed

**Recommendations**

- Implement promotion of tippy tap promotion as part of the preexisting Ghana Health and Education Initiative Handwashing with Soap Program in schools
- Promote and supervise student construction of tippy taps at school
- Assign students maintenance duties i.e. refill water jug, replenish soap
- Strategic placement of tippy taps within the community as a potential class project: place near washrooms, food vendors, sea side
- Expand educational programs of hand washing into the community with pictorial, instructional diagrams on use of tippy tap and proper hand washing techniques

**Acknowledgments**

- I’d like to thank Dr. Hagan for his support in my research endeavors at Axim Government Hospital. I thank Dr. Eben Badoe for his guidance in developing my research question and design & analysis of this qualitative study. I am appreciative of GE/NMF collaboration with Dr. Buckle, Dr. Dyer, and Ja’net Carter for the opportunity to participate in public health research and a rich clinical experience in Ghana.