Prevention of water borne diseases in the tsunami affected Thotagamuwa-Hikkaduwa area of southern Sri Lanka

This item was submitted to Loughborough University's Institutional Repository by the/an author.


Additional Information:

- This is a conference paper.

Metadata Record: https://dspace.lboro.ac.uk/2134/29123

Version: Published

Publisher: © WEDC, Loughborough University

Rights: This work is made available according to the conditions of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) licence. Full details of this licence are available at: https://creativecommons.org/licenses/by-nc-nd/4.0/

Please cite the published version.
Background

Thotagamuwa, Hikkaduwa in the southern coast of Sri Lanka was devastated by the Indian Ocean tsunami of December 26, 2004 leaving the affected population with poor sanitation conditions and at risk to water borne diseases and vector borne diseases. The Thotagamuwa Tsunami Relief Environmental Health Program (THOTEN) is serving a community of four thousand households towards improving the quality of drinking water through chlorination and providing for hand washing with soap-the Safe Water System (SWS). The first monitoring and evaluation survey conducted after three months of interventions are revealing that the population is beginning to use the SWS introduced under the THOTEN program. It also revealed that numbers have increased in awareness of appropriate use of soap to wash hands. The paper describes the overall approach and methodology used and the preliminary results.

Rationale

Given the post tsunami situation on poor water quality and hygiene and related health risks the THOTEN program decided to implement the Safe Water System (SWS) in selected communities. The SWS consists of three primary components:

1) household-level disinfection of drinking water with a dilute bleach solution
2) safe storage of water in narrow-mouthed containers, and
3) behavior change communication to encourage adoption of these new behaviors and sustain utilization of the SWS.

Along with the introduction of the SWS, THOTEN promoted hand washing as part of the overall Program.

Objective

Prevention of diarrhoeal diseases through household water chlorination and promotion of hand washing with soap in tsunami affected community of Hikkaduwa, Sri Lanka

Expected outcomes

Overall to reach 4000 households in tsunami affected communities of Thotagamuwa, Hikkaduwa area with behavior change communication and distribution of the Safe Water System

Approach/methodology

The methodology and overall approach of the SWS was discussed with the Ministry of Health, the Government Water Board, World Health Organization and other key institutions such as the UNICEF. A local private sector manufacturer was engaged for the production of chlorine at 0.9% concentration for individual 130ml plastic bottles. Each household was provided a chlo-
A label of instruction for use by the community was designed, field tested and provided in the bottle. The label carried the brand name ‘chlovathura’.

A 20 Litre jerrycan was manufactured, provided with instructions on use and distributed.

A local soap manufacturer provided soap to the project and were distributed to the households with clear instruction on appropriate use eg. after latrine use and before cooking and eating/feeding meals.

SWS project was ‘launched’ with clear cut Behaviour Change Communication (BCC) strategy for community drinking water enhancement and promotion of hand washing with soap.

A phased field distribution of the SWS began through the TEDHA field team along with raising of awareness and instructions for use.

Preliminary reinforcements of the messages on use of the SWS was provided to the householders after the distributed.

Following community distribution was achieved for the SWS:

Two months following the distribution (in April 2006) a monitoring exercise was undertaken through a detailed survey of a random sample and focus groups to establish the SWS usage patterns and trends in the community.

At the time of preparing this paper (1st June 2006) the data from the first monitoring and evaluation exercise are being processed for analysis but will be available and presented at the Conference in November 2006.

Contact addresses
Dr. Panduka Wijeyaratne
Chairman,
Tropical and Environmental Diseases and Health Associates (TEDHA)

Table 1

<table>
<thead>
<tr>
<th></th>
<th>In one year</th>
<th>In the 2nd year</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% of households to be aware of the SWS</td>
<td></td>
<td>70% of households to be aware of the SWS</td>
</tr>
<tr>
<td>30% of households to know how to use the SWS system</td>
<td></td>
<td>50% of households to know how to use the SWS system</td>
</tr>
<tr>
<td>15% of households to use the dilute bleach component of the SWS</td>
<td></td>
<td>25% of households to use the dilute bleach component of the SWS</td>
</tr>
<tr>
<td>25% increase in the relative proportion of households using soap for hand washing</td>
<td></td>
<td>40% increase in the relative proportion of households using soap for hand washing</td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>community</th>
<th>no households</th>
<th>Jerry cans</th>
<th>chlorine</th>
<th>soap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kalupe</td>
<td>1231</td>
<td>1041</td>
<td>1005</td>
<td>1059</td>
</tr>
<tr>
<td>Malawanna</td>
<td>449</td>
<td>465</td>
<td>394</td>
<td>465</td>
</tr>
<tr>
<td>Wellawatte</td>
<td>340</td>
<td>330</td>
<td>176</td>
<td>330</td>
</tr>
<tr>
<td>Seenigama</td>
<td>450</td>
<td>321</td>
<td>08</td>
<td>321</td>
</tr>
<tr>
<td>Thotagama-muwa</td>
<td>475</td>
<td>461</td>
<td>-</td>
<td>461</td>
</tr>
<tr>
<td>Werellana</td>
<td>107</td>
<td>94</td>
<td>-</td>
<td>94</td>
</tr>
<tr>
<td>Telwatte</td>
<td>728</td>
<td>728</td>
<td>100</td>
<td>728</td>
</tr>
<tr>
<td>Peraliya</td>
<td>423</td>
<td>423</td>
<td>-</td>
<td>423</td>
</tr>
<tr>
<td>Total</td>
<td>4203</td>
<td>3863</td>
<td>1683</td>
<td>3881</td>
</tr>
</tbody>
</table>

Figure 1. The 130 ml 0.9% chlorine solution ‘chlovathura’

Figure 2. Making the householders aware: ‘chlovathura’, the jerrycan and soap for hand washing being demonstrated
19, Skelton Garden’s
Colombo 5.
Sri Lanka.

Dr. Pavani Kalluri,
Research Assistant Professor,
University of Buffalo,
USA

Dr. Mireille Andriankaja,
Consultant,
University of Buffalo,
USA

Prof. Rajitha Wickremasinghe,
Head – Department of Community Medicine,
University of Kelaniya,
Kelaniya,
Sri Lanka.

Dr. Janani Pinidiyapathirage,
Lecturer,
Department of Community Medicine,
University of Kelaniya,
Kelaniya,
Sri Lanka