Oral rehydration at home – with a little help from friends

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A training workshop was organized for selected members of two village populations in north-eastern Nigeria, whereby they acquired knowledge and skills enabling them to spread the word and practice of oral rehydration therapy for children suffering from diarrhoea in their communities. The difficulties encountered and the gains achieved in this empowerment programme are described below.

In rural areas of north-eastern Nigeria a poor understanding of the rationale and practice of oral rehydration therapy among persons caring for children, partly attributable to the infrequency of health education campaigns, often leads to failure in the home-based management of diarrhoea. A study was conducted between November 1994 and June 1995 on the effectiveness of a programme in which selected members of two village populations in the Bama Local Government Area were taught how to handle continuing education on this subject in their communities.

Training key people

Childhood diarrhoea was common in the area and knowledge of its home-based management was inadequate. Measures were taken to improve the situation in two villages while a third was used as a control. Seven female and twelve male community members with diverse backgrounds were selected to participate in a training workshop by the traditional council of Woloji District on the basis of criteria agreed with a project team consisting of the present authors and two primary care supervisors. The trainees’ personalities suggested that they would be readily approachable by members of the community. They had not previously received any formal education in health matters nor had they worked in official health facilities. The proceedings of the workshop were videoed as part of a strategy for propagating information on the home-based management of diarrhoea.

A training module was designed with the following content.

- Lectures on: the importance of diarrhoea as a preventable cause of ill-health and mortality in children; dehydration and malnutrition associated with diarrhoea; home-based management of diarrhoea; the aims and practices of oral rehydration. Simple terminology was employed. A midwife on the area’s primary health care staff acted as interpreter.

- Demonstration by the midwife of the preparation of sugar-salt solution and its administration to children suffering from diarrhoea.

- Practice on the preparation and administration of sugar-salt solution. Each trainee was given a bowl with a cover, a 3-ml
teaspoon, and a measuring cup for use in fieldwork after the workshop.

- Group discussion.

Although they had not been formally selected, some village and ward heads attended the workshop; they were not, however, included in the survey at the end of the study. The district head and the village and ward heads repeatedly urged the participants to spread the knowledge gained in the workshop to as many people as possible in the community.

The participants readily pointed out one another's mistakes and discussed a range of questions. One person wanted to know how the trainees should go about training others. Another asked if sugar-salt solution was intended only for children and whether its dilution should vary with the age of the recipient. Breast-feeding by pregnant women, perceived to be an important cause of diarrhoea in the area (1), was also discussed.

The outcome was evaluated by means of a structured questionnaire applied immediately before the intervention in November 1994 and again in June 1995. This gave information on the ability of 40 randomly selected carers from the two intervention villages and the same number from the control village to prepare and administer sugar-salt solution, to carry out feeding during episodes of diarrhoea, to recognize danger signs of diarrhoea, and to seek help. The second survey also involved interviewing the community teachers about these matters and their field experiences and perceptions of the project.

The people learn

Among community members in the intervention villages there were significant positive changes in their expectations of what treatment with sugar-salt solution could achieve, in their knowledge of its preparation and use, and in help-seeking, feeding practices, and awareness of dehydration as a problem associated with diarrhoea (see table). The second survey produced results for the community teachers which were superior to those for the general population in the intervention villages in respect of feeding practices and help-seeking, but much less satisfactory with regard to the administration of drugs in addition to sugar-salt solution: 30% of the interviewees in the general population said they would use drugs whereas 83% of the community teachers said they would do so (see table).

Members of the intervention and control communities and the community teachers gave similar reasons for why the type and quantity of food offered to children during diarrhoeal episodes should be altered. Some of the views expressed are outlined below.

- The type of food should be altered because:
  - the children need more liquid than solid food;
  - the usual food might be causing diarrhoea;
  - soft food is easier to take and handle than the usual food;
  - food that is softer and more tasty than that usually offered is needed to overcome loss of appetite.

- The amount of food should be increased because:
  - there is a need to compensate for loss of weight and fluids;
  - there is an increased desire for food;
  - there is a need to replace energy lost as a result of diarrhoea and vomiting.

- The amount of food should be reduced because:
  - it is desirable to reduce vomiting and the frequency and volume of stools;
  - there is a loss of appetite;
  - less food than normal is required because the stomach's capacity and the body's requirements are diminished;
  - it is desirable to avoid stomach pain.
### Characteristics of users of sugar-salt solution before and after intervention and of community teachers after intervention

<table>
<thead>
<tr>
<th></th>
<th>Intervention villages</th>
<th>Control village</th>
<th>Community teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
<td>Pre-intervention</td>
</tr>
<tr>
<td>Number of users/teachers</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Expected sugar-salt</td>
<td>75</td>
<td>53</td>
<td>64</td>
</tr>
<tr>
<td>solution to stop diarrhoea (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepared sugar-salt</td>
<td>13</td>
<td>90</td>
<td>28</td>
</tr>
<tr>
<td>solution correctly (%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Commenced use of sugar-salt solution appropriately (%)</td>
<td>39</td>
<td>73</td>
<td>45</td>
</tr>
<tr>
<td>Sought help appropriately (%)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Continued with regular food type during diarrhoea (%)</td>
<td>86</td>
<td>69</td>
<td>71</td>
</tr>
<tr>
<td>Gave increased amount of food during diarrhoea (%)</td>
<td>25</td>
<td>69</td>
<td>23</td>
</tr>
<tr>
<td>Help-seeking in formal health facilities only (%)</td>
<td>38</td>
<td>73</td>
<td>46</td>
</tr>
<tr>
<td>Willing to use drugs (%)</td>
<td>50</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Knowledge of dehydration as a problem associated with diarrhoea (%)</td>
<td>29</td>
<td>70</td>
<td>30</td>
</tr>
</tbody>
</table>

<sup>a</sup> Percentages in the same row with the same symbol are significantly different with \( p<0.05 \) for \( \chi^2/Fisher's exact test \).

<sup>b</sup> Stricter criteria were used for the community teachers than for the general population.

### Teachers at work

The 18 community teachers whom it was possible to interview after the intervention claimed to have advised a total of 320 parents; the mean numbers advised by female and male teachers were 21.3 and 17.5 respectively. One male community teacher had advised only his wife because he feared that people might suspect him of financial or sexual motives if he contacted other women.

The respondents said they were being consulted by mothers and neighbours whose children had diarrhoea, although one male community teacher found that only parents who were his relations or friends were seeking his advice. Sixteen respondents felt they had sufficient knowledge to continue teaching parents but seven considered that they needed to acquire additional information, learn how to mobilize the community, or increase their ability to prepare sugar-salt solution.

Some of the reasons given by the community teachers as to why the project was of value to them personally are indicated below.
They gained satisfaction from:
- being able to treat diarrhoeal episodes, especially in the children of friends and relations;
- teaching other people to treat diarrhoeal episodes;
- observing that the knowledge and skills they imparted were passed on to others.

Their misunderstandings about the preparation of sugar-salt solution were corrected.

They were able to compare the modern and traditional approaches to the treatment of diarrhoea.

According to the community teachers the population benefited from the project in the following ways.

- Because many mothers learned how to prepare and use sugar-salt solution at home there was a decline in the frequency with which children suffering from diarrhoea had to be taken to health facilities for treatment.
- There was a reduction in the number of diarrhoea cases.

The community teachers considered it desirable to extend the project to other villages in order to reduce the morbidity and mortality associated with diarrhoea. They pointed out that there were too few community teachers to cover all the villages in the area and that in any case the means of transport were inadequate. Furthermore, it was likely that residents in the other villages would cooperate more readily with teachers selected from their own communities than with outsiders.

The community teachers encountered the following difficulties during fieldwork.

- Some mothers who wished to be taught lacked materials.
- Some mothers did not wish to be taught.
- Some mothers did not believe that sugar-salt solution could be used to treat diarrhoea and instead wished to use drugs.
- Male community teachers complained that sugar was costly and that there was a lack of financial assistance or other incentives.
- Because of deficiencies in their formal education some mothers found it difficult to cope with the teaching sessions, particularly in relation to the measurement of amounts of salt and sugar.
- Some people discouraged others from attending the teaching sessions and some husbands prevented their wives from attending if the teacher was a man.
- Some mothers used the same sugar-salt solution for more than one day.
- Anxiety was felt that immoral or financial motives might be ascribed to the community teachers.
- A complaint made mainly by male teachers was that a long time was required to instruct some mothers because of their poor understanding.
- Male community teachers were sometimes denied access to houses or prevented from teaching housewives.
- Difficulty in achieving community mobilization or the cooperation of mothers was reported by five male teachers but by only one female teacher.

The study demonstrated the feasibility of propagating information on oral rehydration therapy in rural populations through selected community members trained for this purpose. A cascade effect was attainable when parents passed on the messages they received from
the community teachers. There was clearly a felt need for the activities described.

Although knowledge of some areas of the home-based management of diarrhoea was significantly increased, little or no progress was made in others. Whereas the importance of dehydration seemed to be well understood, that of bloody stools and persistent diarrhoea did not. This indicates the need for field trials aimed at achieving the best possible balance in the teaching programme.

Feedback from community teachers permitted programme modification and problem-solving. Examples of how this worked are outlined below.

- Community mobilization increased the willingness of residents, especially husbands, to admit community teachers into their homes and helped to limit suspicions that the teachers had ulterior motives.

- The enablement of community teachers was brought about by issuing them with training certificates.

- Financial incentives were provided, notably so that the teachers could replace teaching materials and travel between scattered settlements.

Further studies are needed to explain why community teachers attached so much importance to the use of drugs in cases of diarrhoea, notwithstanding repeated reference during the workshop to oral rehydration therapy as the preferred approach to home-based treatment. Adequate supervision of community teachers is essential. There was evidence of a decline in their knowledge of the home-based management of diarrhoea as time passed, and refresher courses should therefore be organized at reasonable intervals.

Acknowledgements

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Reference