A no charge prescription for oral rehydration solution during an initial office visit for acute diarrhoea in children decreased unscheduled follow up visits


QUESTION: Does the provision of a no charge prescription for oral rehydration solution (ORS) during the initial office visit for acute diarrhoea in children increase ORS use and decrease unscheduled follow up visits?

Design
Randomised (allocation not concealed), unblinded, controlled trial with follow up at 10 days.

Setting
7 health centres of a large, urban health maintenance organisation in and around Boston, Massachusetts, USA.

Patients
522 infants and young children aged 0–60 months who had acute diarrhoea, defined as > 3 watery or loose stools within the previous 24 hours. Exclusion criteria were diarrhoea for > 7 days, chronic gastrointestinal disease, or symptomatic immunodeficiency states (eg, AIDS). Follow up was 92% (mean age 18.9 mo, 59% boys).

Intervention
Each of 7 centres was randomly assigned to the intervention or to standard treatment for a 2 week block of time. 231 children received the standard treatment of written instructions for contemporary diarrhoea management (emphasising appropriate ORS use, early feeding, and preventive measures). 248 children received the intervention, consisting of the written diarrhoea management instructions plus a prescription for 2 quarts of ORS filled by the health centre pharmacy at no charge.

Main outcome measures
Main outcome was unscheduled office, urgent care, or emergency follow up visits for the same episode of diarrhoea after the initial encounter, confirmed by computerised hospital database records. Secondary outcomes included parent reported use of ORS after the initial visit, use of physiologically inappropriate fluids such as juices or carbonated beverages, and parents' out of pocket costs.

Main results
At 10 days after the initial encounter, fewer children in the intervention group had unscheduled follow up visits compared with the standard care group, and more used ORS at home after the initial office visit (table ). The intervention and standard care groups did not differ for use of inappropriate beverages or for out of pocket costs.

Conclusion
Among children who had an initial office visit for acute diarrhoea, a no charge prescription for oral rehydration solution plus written instructions decreased unscheduled follow up visits and increased reported use of oral rehydration solution compared with written instructions alone.

COMMENTARY
Evidence exists about the effectiveness of ORS for children with acute diarrhoea in developed countries. Clinical practice guidelines have been published to direct use.[1] Duggan et al examined the relation between the removal of the ORS cost barrier, ORS use by parents at home, and subsequent healthcare services utilisation. Even with the development of an effective rotavirus vaccine, the management of acute diarrhoea from other causes will continue to be an important health issue. This study, therefore, contributes to our knowledge of contemporary outpatient care.

Because of the wide confidence intervals for the number needed to treat to avoid unscheduled follow up visits, it is unclear whether the number of children who would need to be treated with free ORS to prevent 1 additional revisit is nearer 8 or 481. It would be difficult to argue for the implementation of this intervention based on this imprecise estimate.

Clinical practice and the marketplace have changed since the study period (1993–7). In 1993, market availability of ORS products was limited, the palatability of ORS was problematic, and outpatient ORS was not consistently recommended for diarrhoea treatment. Over the past 3 years, ORS use has been promoted through many venues, including evidence based guidelines and advertising directed at consumers. It is likely that both providers and families have become more knowledgeable about ORS since 1997. This study reinforces current knowledge and challenges clinicians and healthcare administrators to consider whether ORS advice alone or in combination with free ORS should be given at the initial office visit for an episode of acute diarrhoea.

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No charge prescription for oral rehydration solution (ORS) plus written instructions v standard care during initial encounter for acute diarrhoea in children*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Intervention</th>
<th>Standard care</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unscheduled follow up visits</td>
<td>11%</td>
<td>17%</td>
<td>37% (1 to 60)</td>
<td>16 (8 to 481)</td>
</tr>
<tr>
<td>ORS use†</td>
<td>85%</td>
<td>71%</td>
<td>19% (8 to 33)</td>
<td>8 (5 to 17)</td>
</tr>
</tbody>
</table>

*Abbreviations defined in Glossary; RRR, RBI, NNT, and CI calculated from data in article. †Only 450 (86%) children included in this analysis.

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