Review: enhanced oral hygiene prevents respiratory infection in elderly people in hospitals and nursing homes

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Review: enhanced oral hygiene prevents respiratory infection in elderly people in hospitals and nursing homes

QUESTION
Does enhanced oral hygiene prevent respiratory infection in elderly people in hospitals and nursing homes?

REVIEW SCOPE
Included studies evaluated the effect of enhanced oral hygiene care or frequent professional oral care on respiratory infection in elderly people in hospital or living in nursing homes. Outcomes were respiratory infection, pneumonia, and death from pneumonia.

REVIEW METHODS
Medline, Cochrane Central Register of Controlled Trials, and National Health Service Economic Evaluation Database (to Nov 2007); and reference lists were searched for randomised controlled trials (RCTs) published in English, German, Dutch, or a Nordic language between 1996 and 2007. Studies involving patients with mechanical ventilation or tube feeding were excluded. 3 RCTs (n = 807) met the selection criteria. 1 placebo controlled trial was double blinded. An additional crossover trial (n = 46) of uncertain randomisation status did not provide useful data.

MAIN RESULTS
Meta-analysis was not done because of differences in interventions and outcomes. The table shows the results of individual trials.

CONCLUSION
Enhanced oral hygiene prevents respiratory infection and death from pneumonia in elderly people in hospitals and nursing homes.

A modified version of this abstract appears in ACP Journal Club.

ABSTRACTED FROM

Correspondence to: Dr P Sjögren, Oral Care AB, Göteborg, Sweden; petter.sjogren@oralcare.se

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Clinical impact ratings: Elderly care 5/7; General/internal medicine 5/7; Infectious disease 4/7

Enhanced oral hygiene care v placebo or usual care (control) to prevent respiratory infection in elderly people in hospitals and nursing homes*

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Type of patients (n)</th>
<th>Follow-up</th>
<th>Outcomes</th>
<th>Intervention</th>
<th>Control</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preoperative and postoperative oral rinse with chlorhexidine</td>
<td>Patients having heart surgery (353)</td>
<td>To discharge</td>
<td>Respiratory infection</td>
<td>2.9%</td>
<td>9.4%</td>
<td>69% (22 to 88)</td>
<td>16 (9 to 61)</td>
</tr>
<tr>
<td>Oral care by caregiver after every meal and weekly professional oral care</td>
<td>Nursing home residents (366)</td>
<td>2 years</td>
<td>Pneumonia</td>
<td>11%</td>
<td>19%</td>
<td>39% (0 to 63)</td>
<td>Not significant</td>
</tr>
<tr>
<td>Weekly professional oral care</td>
<td>Nursing home residents (88)</td>
<td>2 years</td>
<td>Death from pneumonia</td>
<td>7.6%</td>
<td>16%</td>
<td>54% (17 to 75)</td>
<td>12 (7 to 45)</td>
</tr>
<tr>
<td>Weekly professional oral care</td>
<td>Nursing home residents (88)</td>
<td>2 years</td>
<td>Death from pneumonia</td>
<td>5.0%</td>
<td>17%</td>
<td>70% (16 to 93)</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary. RRR, NNT, and CI calculated from data in article.

Consistent and thorough mouth care should be provided to all elderly people in hospitals and institutions who are not able to provide their own oral hygiene. There has been recent interest in the effect of oral hygiene on preventing ventilator-associated pneumonia. Although seemingly intuitive, there is a dearth of evidence available on this aspect of nursing care for other populations, including the elderly.

The review by Sjögren et al is interesting because the authors are dental care professionals and researchers, some of whom are employed by a Swedish dental care company. The review included studies published between 1996 and 2006 in 10 different scientific journals and originating in 6 countries; the search included studies in 8 different languages. Although comprehensive, the researchers may have missed some studies in their literature search by omitting more familiar nursing key words such as “mouth care.”

The review is valuable because it highlights the need for more nursing and interprofessional research into the effects of oral hygiene on preventing pneumonia and possibly improving quantity and quality of life. However, interpretation of the results is difficult because of a lack of consistency in the definition of “oral care” (including “professional care”). As well, some suggested interventions (povidone iodine scrubbing of the pharynx and chlorhexidine oral rinse) sound unpleasant and may not be acceptable to some patients. Risk of aspiration with these rinses is possible in some debilitated patients.

The implication for practice is that mouth care may act as an early detection system for other serious health problems. If mouth care, which has been “considered basic and potentially non-essential nursing care,” is consistently provided, then other essential aspects of care may also be optimised. Mouth care is not a luxury but an essential part of patient care. The need for interprofessional research into the barriers to providing this important aspect of nursing care has been highlighted by this systematic review.

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