Oral Health Programs for Hospitalized Inpatients: Clinical Evidence and Guidelines

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RESEARCH QUESTIONS

1. What is the clinical evidence regarding oral health assessment tools to determine which patients will benefit from oral health programs?

2. What is the clinical effectiveness of oral health programs for hospitalized inpatients with or without swallowing difficulties?

3. What are the evidence-based guidelines regarding oral health programs for hospitalized inpatients?

KEY MESSAGE

There was a lack of high-quality evidence regarding the clinical effectiveness of oral health programs for inpatients, and no evidence was identified regarding oral health assessment tools to determine which patients would benefit from oral health programs. Various oral health interventions were found to be clinically effective in a number of non-randomized studies; and one guideline recommended the provision, supervision, or prompting of oral care to patients by nurses at least twice daily.

METHODS

A focused search (with main concepts appearing in title, abstract or major subject heading) was conducted on key resources including PubMed, The Cochrane Library (2011, Issue 11), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and abbreviated list of major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies and guidelines. Where possible, retrieval was limited to the human population. The search was also...
limited to English language documents published between January 1, 2006 and November 16, 2011. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Two systematic reviews, three randomized controlled trials, four non-randomized studies, and one guideline were identified pertaining to oral health programs for hospitalized inpatients. No evidence was identified regarding oral health assessment tools to determine which patients will benefit from oral health programs. Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Several studies\(^1\text{--}^3\) were identified that examined the clinical effectiveness of oral health programs for hospitalized inpatients. The identified articles did not specify whether the patients were with or without swallowing difficulties.

Two systematic reviews\(^1,^2\) aimed to examine the effectiveness of oral health interventions on the prevalence and incidence of opportunistic oral pathogens\(^1\) and on the rate of nosocomial infections.\(^2\) One systematic review\(^1\) found that chlorhexidine delivered in a variety of oral hygiene products appeared to have some effect on oral yeast, however some included studies presented inconclusive results regarding the effectiveness of chlorhexidine. The review found the clinical effectiveness of other oral hygiene interventions was inconclusive. The second systematic review\(^2\) sought to determine the best practice for oral care to intensive care patients receiving mechanical ventilation. The review concluded that high-level evidence that could inform clinical practice was scarce.

Two randomized controlled trials (RCTs)\(^3,^4\) evaluated the effectiveness of chlorhexidine on the rate of nosocomial infections in patients in a surgical intensive-care unit (ICU)\(^3\) and on the incidence of nosocomial pneumonia in patients in ICU.\(^4\) One RCT\(^3\) found decreases in oropharyngeal colonization, the incidence of nosocomial infections, length of ICU stay, and mortality in chlorhexidine-treated patients compared to controls. The second RCT\(^4\) found no difference between chlorhexidine-treated patients and controls with regards to the incidence of pneumonia, median ICU stay, and mortality.

One RCT\(^5\) examined the effects of oral hygiene provided by a hygienist versus oral hygiene provided by a nurse versus a control group on the oral cleanliness of long-term care elderly inpatients. The best dental hygiene was observed in patients where the oral hygiene was provided by nurses.
One non-randomized study (NRS)\(^6\) assessed the contribution of oral health care in preventing postoperative wound infections in patients with oral squamous cell carcinoma. Lack of oral health was identified as a risk factor for wound infection following surgery. One NRS\(^7\) implemented a pilot pneumonia-prevention program that included chlorhexidine oral hygiene and found that the program was successful in diminishing postoperative pneumonia on the surgical ward. A NRS\(^8\) examined the effects of oral care in mechanically ventilated patients to prevent ventilator-associated pneumonia. The inception of the oral care intervention decreased the rate of ventilator-associated pneumonia. The establishment of an oral care program improved the dental health of psychiatric hospital inpatients in a NRS.\(^9\)

One guideline\(^10\) recommends that nurses provide, supervise, remind or cue oral care for clients at least twice daily. It also recommends that for clients at risk for aspiration, nurses should provide or supervise the provision of oral care.
REFERENCES SUMMARIZED

**Health Technology Assessments**
No literature identified.

**Systematic Reviews and Meta-analyses**


**Randomized Controlled Trials**


4. Panchabhai TS, Dangayach NS, Krishnan A, Kothari VM, Karnad DR. Oropharyngeal cleansing with 0.2% chlorhexidine for prevention of nosocomial pneumonia in critically ill patients: an open-label randomized trial with 0.01% potassium permanganate as control. Chest. 2009 May;135(5):1150-6. PubMed: PM19420193


**Non-Randomized Studies**


Guidelines and Recommendations

APPENDIX – FURTHER INFORMATION:

Guidelines and Recommendations – methodology not specified


Non-Randomized Studies


Additional References