Evidence for Improved Systemic Outcomes in Type 2 Diabetics receiving Oral Care

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Background

- Diabetes is a major global health problem and the number of individuals with Type 2 diabetes is rapidly increasing.
- Glycemic control is key to managing diabetes related systemic outcomes/complications
- A bidirectional relationship between oral health and diabetes-related metabolic control has been suggested

Significance: If evidence for oral care driven improved systemic outcomes is demonstrated, the dental workforce could be utilized to combat the diabetes epidemic

Objectives

1) Identify and evaluate the scientific evidence for improved glycemic control following periodontal therapy within the elderly population with type 2 diabetes
2) Identify gaps in the current body of such existing evidence

Methods

Searches of electronic databases (PubMed, Web of Science and EMBASE) were performed using keywords and terms obtained from previous systematic reviews as well as consultation with medical librarians and domain experts. The final electronic search date was May 30, 2013. Additional references were identified by hand searching bibliographies in relevant reports.

Selection of studies for inclusion in review

Records identified through database searching (n=950) Additional records identified through other sources (n=24)
Citations screened (n=974) Records excluded based on citation (n=877)
Abstracts screened (n=197) Records excluded based on abstracts (n=50)
Full-text articles assessed for eligibility (n=47) Records excluded based on full-text articles (n=27)

Main Reasons for Exclusions:
- Not original study (reviews, guidelines, letter, etc) (n=16)
- Age unspecified or mean age >55 years (n=22)
- Not systemic outcome (n=10)
- Not type 2 diabetes (n=15)
- Full text not available (n=6)
- No specific dental intervention (n=5)

Studies excluded based on full-text articles (n=27)

Results

Improvement in Glycemic Control

Studies Reporting Significant Outcomes

Studies Not Reporting Significant Outcomes

Percentage Reduction in HbA1c

Significance: If evidence for oral care driven improved systemic outcomes is demonstrated, the dental workforce could be utilized to combat the diabetes epidemic

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Conclusions:

There is moderate evidence currently available suggesting that oral care can lead to systemic health improvements in diabetics, most commonly measured by glycosylated hemoglobin (HbA1c). However, there is a paucity of research that focuses on older patients who comprise a large proportion of Type 2 diabetics. While oral care may be an effective intervention for the clinical management of diabetics, evidence may need to be stronger and include a broader population spectrum before becoming a treatment recommendation.

Gaps in the Literature:

- More studies focusing on older adults are needed
- More studies in the US are needed
- Efficacy/Feasibility studies for periodontal therapy are needed
- Large, multi-centre clinical trials are needed
- Cost analyses are needed

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