Uncovering the evidence: Systematic review of interventions to reduce oral health disparities between adults with Intellectual Disability and the general population

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Uncovering the evidence: Systematic review of interventions to reduce oral health disparities between adults with Intellectual Disability and the general population

Christine J. Clifford, MHP; Alexandra Bonardi, MHA, OTR/L; Nancy Harger, MS LIS, RN; Matthew Holder, MD, MBA

Methods

Adapting a trans-disciplinary conceptual model, which could be applied to a multitude of disciplines, we identified the best available literature collected through a conventional systematic review process, addressing the key questions of access and behavior, which allows for additional emphasis on the personal, social and environmental factors that affect the I/DD population.

Key Words: Population; Oral health, dental/dentistry AND I/DD mental retardation physical disability learning disability Autism; Cerebral palsy; Down syndrome; Neurodevelopmental disorder Access to Care; Access, treatment, dental services Health education Outcomes (long-term & short-term); Providers, dentists, hygienists Payment/costs models (service delivery) Mobile clinics Special needs dentistry Health Behaviors: Dental, fear Oral hygiene Tooth brushing Flossing Fluoride Adaptive tools/equipment

First Level Review: 10 Reviewers

Maybes 3,343
Maybes 144
Conflicts 1,028
Maybes 109
Maybes 144
Include 374
Include 458

Total Abstracts: 4,854

Using the framework, developed by the project team with input from our oral health and I/DD expert Advisory Panel, the medical librarian formulated a search strategy to include the population domain as well as access to care and health behaviors terminology. Both Medical Subject Heading (MeSH) terms (or equivalent) and free text were utilized dependent on database. The search was limited to 1980-June 2013, English language only. Databases searched: PubMed, Cochrane, CINAHL, PsycInfo, Global Health, BioMed Central, PubMed Central, ERIC, TRIP, EMBASE, Scopus, Google Scholar; Grey Literature: health agencies (AHRQ, CDC), dental associations, meeting abstracts, dissertations, clinical trials, Scirus, OAIster (OCLC), New York Academy of Medicine, and Networked Digital Library of Theses and Dissertations (NDLTD).

Collected abstracts were uploaded to Abstrackr, a web-based citation screening tool. The review team consisted of ten reviewers: 2 dentists, 4 dental students, 2 researchers, a librarian, and a medical student. Reviewers were trained on the tool as well as the inclusion/exclusion criteria prior to the start of the review and after two weeks a check-in was conducted. To reduce bias, each abstract was reviewed twice and assigned an inclusion/exclusion tag.

Results

Second Level Review: Research Team

First Level Review: 10 Reviewers

Maybes 3,343
Maybes 144
Conflicts 1,028
Maybes 109
Maybes 144
Include 374
Include 458

Total Abstracts: 4,854

*Exclusion Criteria: abstracts not relevant to the research question; did not contain an intervention or did not identify the I/DD population.

Background

Research consistently shows that the population with I/DD experiences poorer oral hygiene, higher prevalence and severity of periodontal disease, and higher incidence of untreated caries when compared to the general population. Poor oral health can cause chronic pain, affect the ability to eat and communicate, and adversely affect physical health and quality of life. Intervention strategies include enhanced prevention, increased routine care, expanded insurance coverage, and training for individuals, caregivers, dentists and hygienists.

A standard systematic literature review for evidence-based practices is not adequate for identifying and evaluating the evidence in areas such as health policy and individual health behaviors. We developed a structured process to uncover evidence where there is limited published literature that includes the I/DD population, and traditional scientific reviews of interventions addressing their oral health.

Key Question 1: What effective interventions/strategies exist to improve access to oral health care for the I/DD population? Key Question 2: What effect do interventions that support good oral health and I/DD experiences poorer oral hygiene, higher prevalence and severity of periodontal disease, and higher incidence of untreated caries when compared to the general population. Poor oral health can cause chronic pain, affect the ability to eat and communicate, and adversely affect physical health and quality of life. Intervention strategies include enhanced prevention, increased routine care, expanded insurance coverage, and training for individuals, caregivers, dentists and hygienists.

Key Question 2: What effective interventions/strategies exist to improve access to oral health care for the I/DD population?

References

1Project funded by CDC Grant # 1U01DD000914-01

General Population vs. I/DD Population Selected Indicators

<table>
<thead>
<tr>
<th>Condition</th>
<th>General Population</th>
<th>I/DD Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated Caries</td>
<td>23%</td>
<td>32.2%</td>
</tr>
<tr>
<td>Periodontitis</td>
<td>8.52%</td>
<td>80.3%</td>
</tr>
<tr>
<td>Edentulism</td>
<td>3.75%</td>
<td>10.9%</td>
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