Role of Oral Health Professionals in the Prevention of Childhood Obesity

Session III: Supporting and Promoting Involvement
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What Skills and Tools Oral Health Professionals Need to Effectively Engage Children Under age 12 and Parents in Implementing Dietary Changes that can Prevent Childhood Obesity and Consumption of Sugar-Sweetened Beverages?

Session Objectives

1. Provide an overview of current interventions identified in the literature to reduce childhood obesity and consumption of sugar sweetened beverages (SSBs)

2. Describe skills and tools oral health professionals can incorporate in practice to help prevent childhood obesity and consumption of SSBs

3. Discuss future directions for oral health care professionals to advance the field by engaging children and their parents in the prevention of childhood obesity

PRISMA Flow chart of included studies. Flow chart indicates 637 combined records were retrieved, 514 remained after duplicates removed followed by exclusion of 57 articles based on irrelevant titles and exclusion of 18 abstracts. 39 full-text articles were examined and 34 full-text articles were excluded; leaving 6 studies included in the review.
### Findings

<table>
<thead>
<tr>
<th>Citation/Authors</th>
<th>Year Published</th>
<th>Country Of Origin</th>
<th>Study Aims/Purpose</th>
<th>Study Population/Age/Sample Size</th>
<th>Obesity Addressed</th>
<th>SSB Consumption Addressed</th>
<th>Outcomes Measured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tavares M, Chomitz V. Am Dent Assoc 140, 313–316</td>
<td>2009</td>
<td>USA</td>
<td>Assess feasibility of dental office-based weight intervention protocol for child/adolescent</td>
<td>Children ages 6-13 n=139</td>
<td>YES</td>
<td>YES</td>
<td>18 month pilot study. 2-3 visits During 18 months obesity risk factors collected by RDH</td>
</tr>
<tr>
<td>Masood M, et al. Lancet 383(9934): 2046</td>
<td>2014</td>
<td>UK</td>
<td>Proposed need for targeted population approach addressing sugar consumption</td>
<td>NA</td>
<td>YES (mentioned)</td>
<td>YES</td>
<td>Letter to Editor; Narrative review</td>
</tr>
<tr>
<td>Akabas SR, et al. Dent Clin North Am 56(4):791-808</td>
<td>2012</td>
<td>NA</td>
<td>Role of oral health professionals (OHPs) incorporating nutrition and physical activity for health promotion/disease prevention</td>
<td>NA</td>
<td>YES</td>
<td>YES</td>
<td>Narrative review Active listening and motivational interviewing (MI) identified as beneficial techniques</td>
</tr>
</tbody>
</table>

### Findings

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<tr>
<td>Murphy M, et al., Contemp Clin Trials. 36(1):126-34.</td>
<td>2013</td>
<td>NA</td>
<td>Proposed: 3-4 short MI sessions in dental setting</td>
<td>Proposed: 11-16 year olds</td>
<td>YES</td>
<td>YES</td>
<td>Study protocol only</td>
</tr>
<tr>
<td>Watt RG, et al., Report to NIH, July 2013</td>
<td>2013</td>
<td>UK</td>
<td>RCT to assess the use of an obesity preventive intervention using MI among overweight 11-16 year olds</td>
<td>• 11-16 year olds who were overweight or obese • Dental practices (n=10) were randomized to control and intervention group • 39 teen participants: intervention (n=22) and control (n=17)</td>
<td>YES</td>
<td>YES</td>
<td>Secondary outcome: Consumption of soft drinks (daily total volume and frequency) Pilot study; not powered to detect significant changes</td>
</tr>
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</table>
Assessed feasibility of a dental office-based weight intervention protocol for child/adolescent based on MI

Healthy weight intervention (HWI), was used to address consumption of sugar in beverages and key recommendations related to caries risk and prevention of obesity

At each visit a RDH collected information about obesity risk factors in regards to food, exercise, “screen time” and meal habits to create a report customized with recommendations for healthy behavior change

If a child had a BMI ≥ 85%, they were referred to a physician

The majority of caregivers felt the dental office was a good place to get healthy eating/exercise information

94% felt the dental hygienist was a good person to discuss height and weight goals with the caregiver and child

The weight-based intervention was well received and 95.5% of participants would recommend the HWI to other families

Authors concluded good dietary habits should be included as part of routine preventive care

One of the recommended behavioral strategies was consumption of less low-nutritive foods such as SSBs
Exploratory pilot randomized controlled trial using a protocol previously reported in the literature

Goal was to assess the practicability and appropriateness of an obesity preventive intervention using MI in overweight 11 to 16 year olds attending primary dental care offices and clinics (n=10) in London

Offices were randomized to a control or intervention group and the dental teams in the intervention group were trained on MI

There were a total of 39 participants randomized to control (n=17) and intervention (n=22) groups

- **Primary outcomes:** changes in BMI and waist circumference
- **Secondary outcomes:** changes in total volume and frequency of consumption of SSBs

At the 6 month follow-up the intervention group had trends toward positive changes with reduced BMI, mean consumption of SSBs, and frequency of unhealthy snacks

Changes were not statistically significant given the sample size was underpowered to detect significant differences
Suggested Interventions/Skills/Tools

- Targeted population approach to sugar reduction
- Sugar cessation programs
- Advice on good dietary habits as part of routine care
- Emphasis on eliminating SSBs, monitoring total caloric intake, and exercising regularly to influence weight control
- Incorporation of nutrition and physical activity as a method of health promotion in dental practice
- Patient centered combined with evidenced based care
- Active listening and MI

Conclusion: What Was Learned?

**Key Findings:**

- Limited research on behavior-modification tools and skills that have been effectively implemented in dental setting to address consumption of SSBs and weight management to decrease risk of obesity
- Active listening and motivational interviewing were common tools and skills identified as techniques that can be used by OHPs to promote positive lifestyle changes
- Future studies are needed to identify tools and skills that OHPs can effectively integrate into preventive patient care
Active Listening

* This technique is useful because it encourages focused listening
* Repeating back what an individual has stated allows for a greater understanding and/or confirms what has been said or heard
* This technique encourages an individual to open up and expand on their thoughts and feelings
* Potential application in the dental setting and discussion of SSB consumption

Motivational Interviewing

* MI has shown promise in influencing health behaviors
* Lack of published methodologies on its use and limited evidence of positive influence on dietary change
* Murphy, et al., tested the feasibility of a MI intervention to reduce soft drink consumption in adolescents
* Use of 3-4 MI sessions and a maintenance phase by trained researchers
* “MI approach makes it an ideal tool for overcoming some of the challenges in working with young people to improve health and dietary behaviors”
* Collaborative, non-confrontational approach
* Increases intrinsic motivation and respects autonomy

Murphy, et al. 2013 Contemporary Clinical Trials
Motivational Interviewing

- Use of 5-10 minute MI interventions may be more feasible in dental settings
- Client centered counseling
- Addresses “readiness to change”
- Main focus of MI is facilitating behavior change by “exploring and resolving ambivalence about behavior change”


Steps Moving Forward

- Association of obesity to oral health presents opportunity for OHPs to engage with interprofessional teams in prevention and management of this significant public health problem
- Evidenced based documentation of implementation of policies established by ADHA, AAPD and ADA related to reduction of SSB consumption is needed
- Existing research is largely survey research
- Future large scale randomized multi site studies are needed to identify cost effectiveness of tools and skills that can be used by OHPs to address SSBs and weight control as a part of preventive patient care
Recommendations and Identified Gaps

**Research:**
- RCTs demonstrating effectiveness of addressing sugar consumption/reduction off SSBs and reducing risk of obesity
- Quantitative measures of weight loss
- Appropriate length of time for interventions
- Power analysis to determine adequate sample size

Recommendations and Identified Gaps

**Education and Training:**
- Literature suggests OHPs are interested in including nutrition education in practice but few actually incorporate
- Development of evidenced based guidelines/screening tools for OHPS to utilize in practice
- More emphasis in pre-doctoral and dental hygiene programs on nutrition education related to SSB consumption/reducing risk of obesity
- Continuing education courses to model tools and techniques for OHPs to incorporate nutrition education in practice
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