Brush Text: A Multimedia Text Messaging Intervention to Improve the Oral Health of Rural Head Start Children

by

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Brush

Goal: Children will have good oral health and start Kindergarten ready to learn.

To do this we develop training, curriculum, and materials for:

• Direct service providers
• Children
• Parents
My Problem

Parents are hard to reach.

Rural parents are even harder to reach.
We have a problem with access to dental care.

But we have a bigger problem with access to prevention education.
NOTICE

NO CELL PHONE USE IN WAITING ROOM
PLEASE BE COURTEOUS AND TAKE YOUR CALLS OUTSIDE
THANK YOU!

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Literature Review

Text messaging and oral health - only three studies


Multimedia Text Messaging - only one study
Purpose of the Study

Determine the feasibility and effectiveness of a five week long multimedia text messaging intervention, delivered to parents and children, in improving rural Indiana Head Start parents’ adherence to twice daily brushing for their preschool-aged children.
Methodology

- Mixed methods, with quantitative being dominant and qualitative used for intervention refinement.

- Based on Social Cognitive Theory, which is becoming increasingly popular in oral health interventions because it focuses on motivation and thought processes parents undertake when making health decisions for children (Findlayson et al., 2007).


**Data Collection/Analysis**

- **Qualified participants (n=142)**
  - Assigned to control (n=47)
    - Completed final survey (n=25)
      - Dropped for missing data (n=2)
      - Lost to follow up (n=22)
    - Analyzed (n=23)
  - Assigned to intervention (n=95)
    - Week 2 response (n=34)
      - Lost to follow up (n=61)
    - Week 4 response (n=25)
      - Lost to follow up (n=70)
    - Completed final survey (n=45)
      - Dropped for missing data (n=3)
      - Lost to follow up (n=50)
    - Analyzed (n=42)

- **Completed consent (n=144)**
- **Excluded (n=2)**
Parent Message

Hi! Can bed time be a CRAZY time at your house? Watch this: http://bit.ly/btsw05p

Child Message

Hi kids! I have a great story for you to read about a boy who gave all his teeth to the Tooth Fairy! Would you do that? Watch this: http://bit.ly/btsw01c
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Length of video</th>
<th>Social cognitive theory constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Daily oral hygiene</td>
<td>1.51 min</td>
<td>Skills training</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Norming</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Social support</td>
</tr>
<tr>
<td>2</td>
<td>Role-modeling</td>
<td>1.05 min</td>
<td>Role-modeling</td>
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<td>Skills training</td>
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<td>Social support</td>
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<td></td>
<td></td>
<td></td>
<td>External cues to action</td>
</tr>
<tr>
<td>3</td>
<td>Nutrition</td>
<td>1.42 min</td>
<td>Role-modeling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skills training</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Norming</td>
</tr>
<tr>
<td>4</td>
<td>Oral health and school success</td>
<td>1.16 min</td>
<td>Skills training</td>
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<td>Norming</td>
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<td></td>
<td></td>
<td></td>
<td>Social support</td>
</tr>
<tr>
<td>5</td>
<td>Bedtime routines</td>
<td>1.42 min</td>
<td>Role-modeling</td>
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<td></td>
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<td>Skills training</td>
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<td>External cues to action</td>
</tr>
</tbody>
</table>
How are rural, low socioeconomic (SES) parents using their mobile phones?

• > 90% own a smartphone

• > 87% use their mobile phone to watch videos

• > 76% had not experienced an interruption to their mobile phone service in the past six months

• > 89% using the same mobile phone number as they had six months ago

• 93% felt they would have no extra charges from a multimedia intervention
What are the attitudes rural, low SES parents have towards receiving oral health information through text messaging?

• <20% had received health information through text message, such as Text4Baby

• Nearly 80% were open to receiving health information about children through text messages messages depending upon the topic
Results for child toothbrushing for intervention group

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Final</th>
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</thead>
<tbody>
<tr>
<td>Twice or more</td>
<td>55.8%</td>
<td>76.2%</td>
</tr>
<tr>
<td>Once</td>
<td>43.2%</td>
<td>21.4%</td>
</tr>
<tr>
<td>Zero</td>
<td>1%</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

- Control group: 50% baseline/52.9% final for 2x brushing
- Parents’ rate of toothbrushing also showed a significant increase (p=.019)
Post-Intervention Findings

• >86% had no problems viewing the videos

• >87% were very satisfied (53%) or satisfied (34%) with the BrushText messages and videos

• 84% would recommend BrushText to a friend

• >84% indicated the text messages and videos strongly encouraged or encouraged their child to brush twice a day
Qualitative Findings

**Theme One: Children’s Positive Attitude**
- “Emma really loved them. She was excited when I would say, Emma, you have a text!” (ID Three).
- Children had a more positive attitude towards brushing.

**Theme Two: Parent/Caregiver Attitudes Towards the Intervention**
- Intervention was for the children
- “Just for him”
- Parents seemed to take the information more seriously when it was in video format

**Theme Three: Positive Reactions to Multimedia Text Messaging as a Teaching Tool**
- “If I read them a paper from school they’re like, yeah, whatever. But if you play them a video they’ll watch it. I did like the text and video because it was immediate. Some things get lost in the transition home by kids. So if I wanted to be sure to have it then the text is the way to go” (ID Five).
Implications for Practice

• Head Start/Early Head Start and WIC should integrate multimedia text messaging into curriculum and promote the current interventions available. Head Start should also consider integrating multimedia text messaging into home visiting curriculum.

• Multimedia text messaging offers a modality for dental professionals to use to reach parents with messaging outside of the dentist office, in an effort to reduce dental decay in young children (like Text4Baby.)
Pick up a handout!

Text BRUSHDEMO to 49798

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