Efficacy of Oral Health Promotion in Primary Care Practice

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• Disclosure:
  – Dr. Mattheus has no relevant financial or nonfinancial relationships to disclose.
Objectives

• Recognize the risk factors and various consequences associated with early childhood caries

• Describe the process of integrating oral health promotion into clinical practice

• Discuss the changes in oral health beliefs and behaviors that can occur with implementation of oral health promotion programs
Oral Health

• Oral health is a key component of overall health and well-being children

• Poor oral health has been associated with:
  – Cardiovascular disease
  – Respiratory infections
  – Diabetes mellitus
  – Preterm labor and births

Sources: Jashipura & Douglas, 2000; Kuo, Polson & Kan, 2008; Lee et al., 2007; NIDCR, 2002
Pediatric Oral Health

• Dental caries are the most common chronic childhood disease

• One in four (28%) preschoolers experience tooth decay

• Highest risk:
  – Low-income
  – Minority
  – Immigrant children

Sources: Beltran-Aguilar et al., 2005; Passel, 2002; USDHHS 2010
ECC Risk Factors

- Lack of fluoridation
- Limited parent education
- Maternal caries
- Poor oral hygiene
- Poor feeding habits
- Previous caries
- Medical conditions
Pediatric Oral Health

• Dental caries rates continue to grow
• Limitations to decreasing childhood caries
  – Shortage in pediatric dental services
  – Shortage in dental providers willing to treat uninsured children or those with state insurances
• Parent’s oral health beliefs and behaviors impact oral health outcomes for their children

Sources: AAPD, 2011; Bagramian, et al., 2009; Crall, 2006; Edelstein, 2002; USDHHS, 2010
Consequences of ECC

- Pain and suffering
- Difficulty eating and drinking
- Difficulty attending school
- Decreased self-esteem
- Decreased social interaction
- Reduced quality of life
- Systemic disease
Ultimate Cost

• Deamonte Driver 12 yrs. old

• Preventable, treatable dental condition leads to death

• Hospital cost $225,000
ECC are Preventable

• Education
  – Oral health habits
    • Diet and nutrition
  – Oral hygiene

• Prevention
  – Water fluoridation
  – Topical fluoride varnish
  – Dental sealants
  – Regular dental visit by 1 yr.
Pediatric Primary Care Providers

• Pediatric providers have frequent contacts with children and families
• All pediatric visits include obtaining a health history, examination and anticipatory guidance
• Many states reimbursement for oral health services

Sources: AAP, 2000; Cantrell, 2009
Steps in Practice

• Caries risk assessment
• Oral health assessment
• Oral health education
• Fluoride varnish application
• Refer to a dental home
Caries Risk Assessment Tool

- Includes risk factors identified by history and clinical assessment

### Caries Risk Assessment Form (Ages 0–6)

<table>
<thead>
<tr>
<th>Contributing Conditions</th>
<th>Low Risk (0)</th>
<th>Moderate Risk (1)</th>
<th>High Risk (10)</th>
<th>Patient Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Fluoride Exposure</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Sugary Foods or Drinks</td>
<td>Primarily at mealtimes</td>
<td>Frequent or prolonged between meal exposures/day</td>
<td>Bottle or sippy cup with anything other than water at bed time</td>
<td></td>
</tr>
<tr>
<td>III. Eligible for Government Programs</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV. Caries Experience of Mother, Caregiver and/or Other Siblings</td>
<td>No carious lesions in last 24 months</td>
<td>Carious lesions in last 7-13 months</td>
<td>Carious lesions in last 6 months</td>
<td></td>
</tr>
<tr>
<td>V. Dental Home: established patient of record in a dental office</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### General Health Conditions

- Special Health Care Needs: Yes

### Clinical Conditions

- Visual or Radiographically Evident Restorations/Cavitated Carious Lesions: No carious lesions or restorations in last 24 months
- Carious lesions or restorations in last 24 months
- Non-cavitated (incipient) Carious Lesions: No new lesions in last 24 months
- New lesions in last 24 months
- Teeth Missing Due to Caries: No
- Yes
- Visible Plaque: No
- Yes
- Dental/Orthodontic Appliances Present (fixed or removable): No
- Yes
- Salivary Flow: Visually adequate
- Visually inadequate

**Instructions for Caregiver:**

*Patients with developmental, physical, medical or mental disabilities that prevent or limit performance of adequate oral health care by themselves or caregivers.*

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Clinical Assessment

• What do you need?
  – Good light sources
  – Ability to visualize
  – Tongue depressor

• Proper positioning
  – Knee to knee
Clinical Findings

• What to look for:
  – Teeth
    • Plaque
    • White spots
    • Brown cavitation
  – Gums
    • Inflammation
    • Abscesses
    • Masses
Oral Health Education

- **Infants (0-12 months)**
  - Importance of primary care teeth
  - Reduce bacteria spread
    - No sharing utensils
    - No cleaning pacifiers with adult mouth
  - No bottles in the bed
  - No bottles by one year
Infants (0-12 MONTHS)

- Reducing sweet drinks and foods
- Oral hygiene
  - Cleaning the mouth before teeth emerge
  - First tooth start brushing
  - Smear of fluoride toothpaste
Toddlers and Young Children

- Brushing twice a day
- Fluoride toothpaste
  - Smear 1-3 years
  - Pea size amount 3-8 years
- Healthy eating
  - Limit sugary drinks and foods
- Visit the dentist
Fluoride Varnish

• Fluoride varnish
  – Easy to use
  – Effective delivery of fluoride
  – Safe for infants and toddler
  – Inexpensive for the practice

Source: Milgrom, Zero & Tanzer, 2009
Study Objective

- To test the impact of oral health promotion visits in a primary care practice on parental oral health beliefs and behaviors for their children ages 6 to 15 months.
Study Sample

• 100 subjects
  – Parents or guardians of children 6 to 9 months of age
  – Receive primary care at NFP
  – Enrolled in Florida Medicaid
  – English speaking
Measurement of Variables

• Early childhood oral health (ECOH) questionnaire
  – Demographics
  – Feeding behaviors
  – Oral health beliefs
  – Oral health behaviors
Methodology

• Standard oral health
  – Screening exam, caries risk assessment, fluoride varnish application, anticipatory guidance and attempt to refer to a dental practice or a dental home. Toothbrush provided.
Methodology

- Enhanced oral health
  - Oral health history with caries risk assessment, oral health examination
  - Picture of ECC
  - Educational handout – family specific
  - Tooth brush demonstration
  - Dental clinic information is provided toothbrush and toothpaste first visit
  - Sippy cup second visit
Results

• Positive changes in oral health beliefs
  – Parents’ perceptions of the importance of oral care for their children compared to general health (p<.05)
  – Parents’ confidence in oral care/brushing (p<.05)

• Positive changes in oral health behaviors
  – Parents’ initiation of tooth brushing (p<.0001)
  – Frequency of brushing (p<.0001)
Benefits

• Child
  – Decrease incidence of ECC
  – Reinforces proper oral care early in life
  – Performed by a known provider

• Family
  – Easy access
  – No additional time or cost expended
  – Improve parent’s and sibling’s oral health outcomes
Benefits

- Practice
  - Ease of implementation
  - Limited training required
  - Limited cost
  - State reimbursement
  - Impacts patient’s health
Implications for Practice

• Oral health is a major health issue
• Oral health promotion programs in primary care practice
  – Positively impacts parent’s oral health beliefs and behaviors
  – Easily integrated into well child care visits
  – Benefits child, family and practice
• Primary care nurse practitioners play a critical role
Implications for Practice

• Program development
  – Important to consider child, family and community factors
  – Simplify education
  – Include incentives

• Increase implementation among providers
  – Document results of oral health promotion program


References


