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Disclosure Slide

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Learning Objectives: By the end of this educational presentation, the participant will be able to (1) discuss the difference between good and bad oral health; (2) identify oral health promoting behaviors; and (3) compare and contrast the efficacy of innovative health promoting oral health programs and interventions.

Conflict of Interest: There is no conflict of interest, sponsorship, and/or commercial support given to the authors.
A Comparison of Innovative Oral Health Educational Programs for Caregivers of Preschool Children
Acknowledgements

- Dr. Pender – HPM
- Dr. Morowatisharifabad – DOHB Tool
- Dr. Lawrence – OHKT Tool
- SFHS – Permission to access population
- ADI/DentaQuest – Oral health gift items
- Absolute Graphics – Graphics, printing, and gift bags
Oral Health Educational Program (OHEP)
Background

- Dental caries in children are five times more common than Asthma and seven times more common than Hay Fever.
- Infants from families of low socioeconomic status, whose mothers have low education level, and who consume sugary foods, are 32 times more likely to have caries at the age of three than children in whom those risk factors are not present.

Background

- Oral health care is the primary preventive method of tooth decay (caries or cavities) and infection in children below the age of five.
- Nonetheless, many children still suffer with multiple infectious tooth decay, unnecessary sedative extractions, and tooth loss; resulting in pain, nutritional concerns, and speech delays.

Background

- These outcomes can lead to speech delays and impairments, growth and developmental delays, and eventually negative systemic effects. Compounding the problem for this population is the possibility of emotional problems due to poor appearance and low self-esteem.

- The gap in the literature as it relates to caregiver knowledge towards oral health for their young children and the effects that preventive oral health care can contribute to a child’s healthy lifestyle are deficient.

Background

Head Start- Federally funded social program

- Community Action Agency umbrella
- 2011 memorandum sent by the Mayor Carlos Gimenez, declared the operational merger of the Community Action Agency, the Department of Human Services, and the Office of Human Rights and Fair Employment Practices in a countywide reorganization
- Community Action and Human Services
Background

Head Start- Federally funded social program

- HS: 2 to 5 year-olds
- Early Head Start: 8 weeks to 3 year-olds

Services

- Health
- Nutrition
- Disability
- Mental health
- Social/Family Services
Background

Head Start - Federally funded social program
- County line to Florida City
- Sweetwater to the Beaches
- 10 RN’s – Quality Assurance
- PE, Immunizations, PPD, Lab, Dental
  - Dental: Yearly exam and restoration if needed
  - Barriers
Background

Florida International University – Public research university (R1 Carnegie classification)

- Enrollment – 54,000+
- Nicole Wertheim College of Nursing & Health Sciences – 2,400+ students and 70+ full-time faculty
Statement of the Problem

The problem is that not all two to five year-old children in South Florida Head Start programs receive routine preventive oral health care; therefore, they possess poor oral health.
Purpose of the Study

The purpose of this study was to:

- explore the effects of an oral health educational program (OHEP) on knowledge and behavior-specific cognitions and effect in caregivers of preschool children.
- promote good oral health (OH) behaviors among caregivers of preschool children.
- improve OH outcomes, and compare the innovative health-promoting interventions.
The Health Promotion Model (HPM) is a theoretical perspective that explores the factors and relationships contributing to health-promoting behavior and therefore to the enhancement of health and quality of life.

Theoretical Framework

- The HPM is a guide for exploration of the complex biopsychological (the body and mind) processes that motivate individuals to engage in healthy behaviors directed toward the enhancement of health.

Theoretical Framework

- HPM is an attempt to depict the multidimensional nature of a person’s interacting with their interpersonal and physical environments as they pursue health.

Theoretical Concepts

- Individual characteristics and experiences
  - Prior related behavior
  - Personal factors
- Behavior-specific cognitions and affect
  - Perceived benefits
  - Perceived barriers
  - Perceived self-efficacy
- Behavioral outcomes
  - Oral health promoting behaviors and intent
Individual Characteristics and Experiences

Behavior-specific Cognitions and Affect

Behavioral Outcomes

Intervention

Pre-Knowledge

Post-Knowledge

Perceived benefits of action

Perceived barriers to action

Perceived self-efficacy

Oral health promoting behaviors (intent)

Interpersonal influences: norms (family, peers, providers)

Prior related behavior

Personal factors: biological (age) sociocultural (income)

Pre-Knowledge

Post-Knowledge
Literature Review: Synthesis

Contribution to Nursing Science:

- Develop, Evaluate, Test, and Promote OHC educational programs
- Increase caregiver’s knowledge in OHC
- Increase caregiver’s OHC behavior
- Encourage caregiver's self-efficacy
- Promote OHC for children 2 to 5 years old
- Promote OHC and prevent oral disease
Protection of Human Subjects

- IRB Approval from Head Start and FIU
- South Florida Head Start Access Approval
- Recruitment
- Voluntary Participation
- Cover Letter
- Anonymity
- OHEP presentation
- Oral Health gift bag
Methodology

- Research Design
  - Descriptive
  - Quasi-experimental
  - Pre-post test

- Variables
  - **Independent:** Oral Health Educational Program - 16 minute compact disc (CD) on “Dr. Rabbit and the Legend of Tooth Kingdom,” which was developed by Colgate Bright Smiles, Bright Futures® (BSBF); and an 8-minute powerpoint-style musical video via hosted by YouTube.
  
  - **Dependent:** Prior related behavior, Personal factors, Behavior-specific Cognitions and Affect, Knowledge, and Intent
Methodology

- **Setting**
  South Florida Head Start Program

- **Study Participants**
  Caregivers* of Head Start and FIU children between the age of two and five

  *Caregivers= mom, dad, sibling, aunt, uncle, grandparent, foster parent, guardian

- **Sample**
  Convenience sample

- **Sample Size**
  400 Head Start and 27 FIU participants
Methodology

Research Instruments

- A researcher designed demographic questionnaire
- The Determinants of Oral Health Behaviors (DOHB)
- Oral Health Knowledge Test (OHKT)
Methodology

Data Analysis

• Preliminary data analysis
  Frequencies, measures of central tendencies, descriptive

• Hypotheses testing
  Pearson’s r Correlation (#1, 3, 4)
  Multiple Regression (#2)
  t-test for dependent variables (#5)
  (#1)
Data Collection

Head Start
- 7 SFHS sites were visited
- 18 educational programs were offered
- Attendance ranging from 8 to 50 persons per educational session
- 425 surveys were distributed, 425 were returned, and 400 provided complete data
- 100% return on surveys

FIU
- FIU students, faculty and staff were recruited from both campuses via flyer and email listserve
- SurveyMonkey® was utilized to obtain consent, demographical information, and pre-post tests; and the musical video link to YouTube
- 27 consents, 25 completed demographics, 19 complete pre-test, 17 completed first post-test, 14 completed second and third post-test
Data Collection
Attention FIU Families!

A research study is being done on Oral Health Care for Children.

Are you 18 years of age or older, an FIU student, faculty or staff who is a caregiver for a child that is 2 to 5 years old, and able to speak and read fluent English?

We need your knowledge and experiences. Your information will be kept confidential.

- You will be asked to partake in a 10-minute video on oral health care for children.
- You will be asked to take five minutes to read the consent form in order to participate in this study and provide your FIU e-mail address so that the questionnaires can be distributed to you.
- You will be asked to complete a demographic questionnaire which will take about 5 minutes, and one questionnaire before and after the video which will take about 10 minutes.
- You will be asked to complete the same questionnaire after 2 weeks, and then again after 4 weeks from the initial one.
- The total time requested of you for this study will be no more than 1 hour.

A minimum of 54 volunteers and a maximum of 60 will be needed.

At the end of the educational program and completion of the questionnaires, you will receive an oral health gift pack filled with many items and information that can be used for your children.

The study is entitled “An Oral Health Educational Program on Knowledge in Caregivers of Preschool Children,” and is being conducted by Gabriella Riccio, an undergraduate nursing student at Florida International University.

Faculty Advisor
Dr. Audrey P. Miller, RN
305-348-4570

Institutional Review Board
Mrs. Maria Melendez-Vargas
305-348-2494

If you would like to volunteer, please log onto the following website for instructions:
http://www.surveymonkey.com/s/TRC9FWJ

IRB approved by Florida International University: IRB approval number 121112-01

Step 1: Consent form - Please proceed to this link http://www.surveymonkey.com/s/TRC9FWJ
Step 2: Demographic questionnaire - Please proceed to this link http://www.surveymonkey.com/s/VBRBCZL
Step 3: Pre-test - Please proceed to this link http://www.surveymonkey.com/s/HD6RCFX
Step 4: Oral Health Educational Program video - Please proceed to this link http://youtu.be/UU8XBjlt8qQ
Step 5: Post-test - Please proceed to this link http://www.surveymonkey.com/s/VGQKCS6

***A reminder will be sent to your FIU e-mail address provided in the consent form for the second and third post-test, at two weeks and fours weeks, respectively***
• Head Start OHEP Colgate video

• FIU OHEP YouTube video
https://www.youtube.com/watch?v=JnanfXOSG8Q
Data Analysis

- IBM SPSS version 19.0 Grad Pack
- Descriptive
- Simple Pearson’s $r$ Correlation
- Multiple Pearson’s $r$ Correlation (Multiple Regression)
- $t$-test for dependent variables
Results- Demographic

Head Start

- Sample (n = 400) consisted of men (n = 92, 23%) and women (n = 308, 77%)
- Ages of 18 and 67 years (M = 27.25, SD = 7.65)
- Majority were Black (n = 379, 94.8%) with the remainder being Hispanic (n = 21, 5.2%)

FIU

- Sample (n = 25) consisted of women (n = 23, 92%) and men (n = 2, 8%)
- Ages of 19 and 69 years (M = 33)
- Majority were Hispanic (n = 12, 48%), 24% (n = 6) White, 16% (n = 4) Black, 8% (n = 2) Asian, and 4% (n = 1) “other”
# Quantitative Grid – Head Start

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Hypotheses</th>
<th>Instrument</th>
<th>Statistical Test</th>
<th>Results</th>
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</thead>
<tbody>
<tr>
<td>1. Among caregivers for children between the ages of two and five, do the caregivers' behavior of providing oral hygiene for the children prior to an educational intervention correlate with their behavior-specific cognitions and affect related to providing such care (benefits, barriers, and self-efficacy)?</td>
<td>1. Among caregivers of children between the ages of two and five, there is a positive correlation between the caregivers' behavior of providing oral hygiene for the children prior to an educational intervention and their behavior-specific cognitions and affect related to providing such care (benefits, barriers, and self-efficacy).</td>
<td>Determinants of Oral Health Behaviors (DOHB) 46 items</td>
<td>Pearson’s $r$ simple correlation, $p &lt; .05$</td>
<td>$r = .43$, $p &lt; .01$ (two-tailed). Significant relationship between scores for prior behavior and the behavior-specific cognitions and affect. Effect size was medium.</td>
</tr>
<tr>
<td>2. Among caregivers for children between the ages of two and five, do the caregivers' personal factors of age and income correlate with their behavior-specific cognitions and affect related to providing oral hygiene care for the children (benefits, barriers, and self-efficacy)?</td>
<td>2. Among caregivers for children between the ages of two and five, there is a positive predictive relationship between caregivers' personal factors of age and income and their behavior-specific cognitions and affect related to providing oral hygiene care for the children (benefits, barriers, and self-efficacy).</td>
<td>DOHB and Demographic Survey (DS) 56 items</td>
<td>Pearson’s $r$ multiple correlation, $p &lt; .05$ (Multiple regression)</td>
<td>$F (2, 397) = .80$, $p = .49$. No significant relationship between the predictor variables of age and income to the outcome variable behavior-specific cognitions and affect related to providing oral health care for children.</td>
</tr>
<tr>
<td>3. Among caregivers for children between the ages of two and five, is there a positive correlation between caregivers' knowledge of oral hygiene prior to an educational intervention and their behavior of providing oral hygiene, and is there a positive correlation between caregivers' knowledge of oral hygiene prior to an educational intervention and their behavior of providing oral hygiene?</td>
<td>3. Among caregivers for children between the ages of two and five, there is a positive correlation between caregivers' knowledge of oral hygiene prior to an educational intervention and their behavior of providing oral hygiene.</td>
<td>DOHB, DS, and Oral Health Knowledge Test (OHKT) 80 items</td>
<td>Pearson’s $r$ simple correlation, $p &lt; .05$</td>
<td>$r = .16$, $p &lt; .01$ (two-tailed). Significant relationship between the scores for caregivers' knowledge prior to the educational intervention and their prior related...</td>
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## Quantitative Grid – Head Start

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<tr>
<td>4. Among caregivers for children between the ages of two and five, is there a positive correlation between caregivers’ post-intervention knowledge of oral hygiene and their intention to provide oral hygiene to the children following the intervention?</td>
<td>4. Among caregivers for children between the ages of two and five, there is a positive correlation between post-intervention scores for knowledge of oral hygiene and their intention to provide oral hygiene to the children.</td>
<td>OHKT and Intent 39 items</td>
<td>Pearson’s $r$ simple correlation, $p &lt; .05$</td>
<td>$r = .27, p &lt; .01$ (two-tailed). Significant relationship between the post-intervention scores for knowledge and caregivers’ intent to provide oral health care for their children. Effect size was small.</td>
</tr>
<tr>
<td>5. Is an educational intervention effective in increasing the knowledge regarding providing oral hygiene care to children for a group of caregivers of children between the ages of two and five?</td>
<td>5. There is a significant difference between the pre-intervention scores and the post-intervention scores for knowledge of oral hygiene among a group of caregivers of children between the ages of two and five.</td>
<td>OHKT (pre) and OHKT (post) 48 items</td>
<td>t-test for dependent variables, $p &lt; .05$</td>
<td>$(M = 60.57, SE = .30)$, $(M = 59.03, SE = .26)$, $t (399) = 6.35$, $p &lt; .01$, $r = .30$). Caregivers scored significantly higher on post-test for knowledge than they did for pre-test knowledge. Effect size was small.</td>
</tr>
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<tr>
<td>1. Is an oral health educational program (OHEP) effective in increasing knowledge on oral health in caregivers of preschool children?</td>
<td>1. There is a significant difference between pre-educational program scores and post-educational program scores for knowledge on oral health care in caregivers of preschool children.</td>
<td>OHKT (pre) and OHKT (post), 34 items.</td>
<td><em>t</em>- test for dependent variables, ( p &lt; .05 )</td>
<td>( M = 43.52 ) (sd = 3.72), ( M = 44.05 ) (sd = 3.79), ( t(16) = -.376, p &gt; .05, r = .71 ). No significant difference between pre- and post OHEP scores. ( M = 42.71 ) (sd = 3.26), ( t(13) = .485, p &gt; .05, r = .63 ) ( M = 44.07 ) (sd = 3.04), ( t(13) = -.770, p &gt; .05, r = .45 ). No significant difference between pre- and post OHEP #2 or #3 scores.</td>
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</tbody>
</table>
Limitations of the Study

- Sample from SFHS Program
- Only English-speaking participants
- Generalizability - Convenience Sample
- Length of questionnaire
- Questionnaires self-reported
- Unable to repeat post-test to determine knowledge retention and/or intent in Head Start OHEP
- Poor response from SurveyMonkey’s post 2 & 3 survey in FIU OHEP
Conclusions

- Effective oral health educational programs
  Increase health promoting behaviors and intent in caregivers
- The Health Promotion Model
  Significant foundation
  Utilize educational promotion techniques
  Guidance for health promotion
- Quantitative studies to explore
  Additional variables
  Populations
Conclusions

- Increased caregiver knowledge, oral health promoting behaviors, and oral health for their children
- Innovative OHEP
- OHEP classrooms gather more participants, but poor followup
  OHEP musical powerpoint on YouTube innovative but poor response rate
  Significant improvement in Head Start families
  No significant change in FIU families
- Healthy People 2020
  Decrease disparities in low income children and their families
  Increase access to oral health services
  Increase pediatric dental providers
  Decrease oral disease
What’s Next?
Oral Health Educational Program

Agenda

- Increase and expand research breadth/depth
- Prevention, Education, Intervention Program
- Children
  - Ages 2-5
  - Oral Health Educational Program on prevention
- Adolescents
  - Ages 12-17
  - Oral Health Educational Program on oral infections, disease, cancer
- Chronic Disease
  - Transplant, CP, SCD, DM, HIV/AIDS, Asthma
Questions?

• Thank You


References

- Miller (2011a), Adapted version from Pender’s Health Promotion Model, related to oral health care.
Miller (2011b), Adapted version of Determinants of Oral Health Behaviors from Mohammad ali Morowatisharifabad.

Miller (2011c), Adapted version of Oral Health Knowledge Test from Schroth et al. and Sabbahi et al.


References

References