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Early Childhood Caries Prevention: Understanding Reasons for Parental Treatment Preferences

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Center to Address Disparities in Children's Oral Health



- **Goal:** To improve the oral health of children
- **ASPIRE:** Acceptability Study of Preventive Interventions for Reducing ECC
- **Supported by the NIH: U54 DE 14251**
 - National Institute for Dental and Craniofacial Research
 - National Center on Minority Health and Health Disparities

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Background

- Early childhood caries (ECC) rates have increased over time, especially for Hispanic and low income children
- There are several low cost, effective treatments to prevent ECC
- Dental services are under-utilized in many communities

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Preferences

- **Definition:** The expression of a value for alternative options for action after informed deliberation of their risks and benefits (Bowling and Ebrahim 2001)
- Preference literature for dentistry limited to orthognathic surgery and mandibular fractures
- Preferences Research: influences clinical decisions, treatment compliance, patient satisfaction, health outcomes, efficacious provision of health services, and future trends in health care

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Objective

- **Determine underlying reasons for parental preferences among 5 early childhood caries (ECC) preventive treatment options**
 - Child Treatments: tooth brushing with fluoride toothpaste, fluoride varnish, xylitol food
 - Mother Treatments: chlorhexidine rinse, xylitol gum

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Methods

- **Setting: Head Start and Early Head Start Programs**
 - Berkeley-Albany YMCA Early Childhood Development Services
 - Oakland Unity Council De Colores Childcare Center
- **Participants: Parents/caregivers of Hispanic children aged 1-5 years attending the centers**
 - N = 211
 - 98% female
 - 90% mothers
 - Mean age 30 (sd 7.6)
 - 100% Hispanic/Latino ethnicity

ASPIRE Interview

- Demographics
- Acculturation
- Dental services utilization and satisfaction for parent and child
- Child's oral health-related quality of life
- Parental knowledge of children's oral health
- Treatment acceptability and preferences for 5 ECC preventive treatments
- Underlying reasons for treatment preferences
- Preferred provider and location for fluoride varnish

Assessment Elements

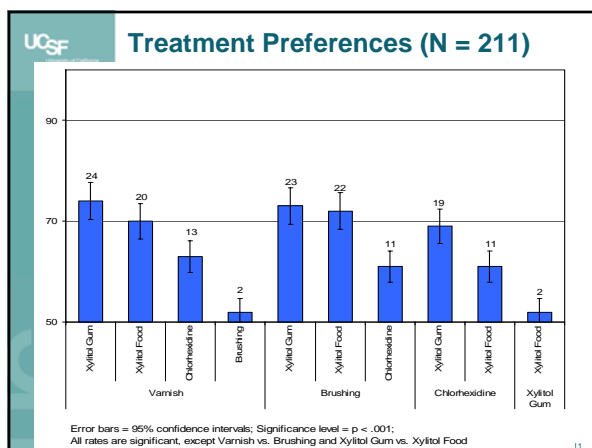
- **CONSTANT**
 - Cost
 - Availability
 - Safety/Risk
 - Non-invasive
 - Effectiveness
- **VARIED**
 - What: treatment is
 - Why: treatment works
 - Who: receives treatment
 - How: treatment is done
 - When: treatment frequency
 - Where: treatment location
 - What: treatment's taste or smell

Fluoride Varnish

Who receives treatment?	Your child
What is the treatment?	Fluoride is applied to teeth
How often is it done?	2 times during the year
Where does the treatment take place?	Outside the home
How does it taste or smell?	Good

Methods

- 5 treatments were presented as 10 paired comparisons
 - Preference ascertained in each pair
- Sub-sample of 201 participants were asked to explain why she had chosen each particular treatment
- Qualitative comments were reviewed for content; constructs were derived by inductive and iterative process
- Comments were classified into the various construct categories



Content Constructs (N = 201)

Construct	Count	%
Who receives treatment		
a. Child targeted	373	16.0
b. Multiple users	270	11.5
Convenience		
a. Convenient	630	27.0
b. Inconvenient	4	0.2
Habits		
a. Promote healthy	359	15.4
b. Avoid unhealthy	136	5.8
Effectiveness		
a. Effective	415	17.8
b. Ineffective	2	0.1

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Treatment Acceptability Constructs

Treatment	1 st Construct	2 nd Construct	3 rd Construct
Brushing	Healthy Habits (60%)	Child Targeted (19%)	Convenience (7%)
Varnish	Effectiveness (42%)	Child Targeted (27%)	Convenience (26%)
Xylitol food	Convenience (39%)	Child Targeted (29%)	Effectiveness (13%)
Xylitol gum	Convenience (54%)	Multiple Users (26%)	Unhealthy Habits (8%)
CHX	Multiple Users (37%)	Convenience (28%)	Effectiveness (20%)

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Treatment Preference Constructs

Paired Comparison	1 st Construct	2 nd Construct
Varnish (74%) Xylitol Gum (26%)	Child Targeted (43%)	Effectiveness (32%)
Varnish (70%) Xylitol Food (30%)	Effectiveness (47%)	Convenience (36%)
Varnish (63%) Chlorhexidine (37%)	Child Targeted (52%)	Effectiveness (29%)
Varnish (52%) Brushing (48%)	Effectiveness (67%)	Convenience (28%)
Brushing (73%) Xylitol Food (27%)	Promote Healthy Habits (64%)	Avoid Unhealthy Habits (17%)
Brushing (72%) Xylitol Gum (28%)	Promote Healthy Habits (59%)	Child Targeted (28%)
Brushing (61%) Chlorhexidine (39%)	Promote Healthy Habits (51%)	Child Targeted (45%)

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Conclusion

- Major reasons for preferring fluoride varnish and tooth brushing with fluoride toothpaste:
 - healthy habit promotion
 - effectiveness
 - targeting the child
 - convenience
- These results may be useful in planning ECC prevention programs in Hispanic communities

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