

## Shades of Decay

### The Meanings of Tooth Discoloration to Latino Immigrants

Erin E. Masterson, BA; Kristin S. Hoefft, MPH; Judith C. Barker, PhD  
Center to Address Disparities in Children's Oral Health  
University of California – San Francisco  
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## Dental Discoloration

- A broad range of dental discolorations can exist in deciduous dentition (Sapir, Reifuss 2005 Hapsh Vekhashirayim 22(2);24-36; Sullivan 2005 Dent Update 32:463-71; Weibury 1997 Paediatric Dentistry)
  - Range of colors
    - White/opaque, amber, violet through black
  - Variety of causes
    - Many ways to categorize: one way is by extrinsic or intrinsic cause
      - *Extrinsic*- food/beverages, smoking, oral hygiene (bacteria), drugs
      - *Intrinsic*- dental caries, genetics, trauma, fluorosis, drugs
- Discerning the cause and clinical significance of dental discoloration in children is an extraordinarily complex issue

## Significance of Tooth Discoloration

- Relatively little research has been done on parental perceptions of the significance of tooth discoloration
  - Mostly concerning dental esthetics in children, specifically perceptions of fluorosis (Lakumander 1998 JADA 129:1000-1006; Shuman 2004 JADA 135:995-604)
    - Dissatisfaction with the appearance of teeth among parents, dentists and children in children with severe levels of dental fluorosis
    - Regardless of cause, parents generally are concerned about discoloration in children's teeth

## Study Objectives

- To investigate urban Latino immigrant caregivers' understandings of and behaviors surrounding oral health, predominantly in children aged 1-5 years
- Specifically, to link parental reports of dental discoloration with care-seeking behaviors
  - In this county, all children have health insurance, including dental coverage

## Methods

- Convenience sample (N=38)
  - Primary caregiver of Mexican descent with at least one child aged 5 years or less
  - Lived in a low-income primarily Latino neighborhood in an urban center in northern California
- Recruited from preschools, community organizations and festivals, dental clinics, and referred from other participants

## Data Analysis

- Data was collected by open-ended interviews (most in Spanish) and ethnographic observations
  - Interviews were recorded, translated and transcribed
  - Two researchers independently read, coded and analyzed the transcripts using NVivo® Software Package

## Study Sample Description

### Caregiver Demographics (N=38)

	Mean	Range
Caregiver Age (yrs)	31 ± 5.7	20-44
Children in Family	2.5 ± 1.1	1-5
Annual Family Income	\$23,500 ± 13,150	\$4,500 - 70,000 Median = \$24,000
Years in US (‡ US-born excluded)	9.5 ± 5.0	1 - 21
Years of Education	9 ± 2.7	2 - 15

### Children Demographics (N=92)

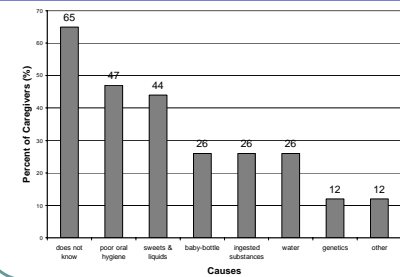
Mean Child Age (yrs)	6 ± 4.1
% reported caries experience	61
% reported tooth discoloration	18

## Shades of Decay

- Parents discussed a range of discolorations, which were categorized into 5 groups
  - White, Beige, Yellow, Brown, Black

“The three-year-old, my nephew, has black teeth... Yes! He once came here and I brushed his teeth really well, poor child. He even cried. His teeth still looked black. His teeth looked black to the bone.”

## Attributed Causes of Discoloration



\* (N=34), Respondents could offer more than one cause; therefore percentages do not total 100%.

## Description of Tooth Condition

- In addition to the range of colors, parents also described the condition of the child's teeth in three ways
  - Stained/Spotted (*manchado*)
  - Decayed/Caries (*picado/caries*)
  - Rotten (*podrida*)

“Like I said, her teeth started to break because of the juice. I don't know what that is called. She had something here in her teeth and she had caries. Her molars were decayed. They were black...”

“I have seen many children who have rotten teeth. You can see that their teeth at the front have crumbled. I've seen that.”

## Structural Integrity of the Tooth

- The caregivers provided further commentary about structural damage to the tooth
  - “Getting smaller”, “fragile”, “crumbling”, “falling apart”, “breaking”, etc.

“I don't know if that's what made her teeth get so fragile and what made them go brown, not yellow, but brown. I'm telling you, her teeth would fall apart on the inside ...”

“The teeth were not completely decayed, they were just yellowish - as if they were crumbling - not black or anything. They decided to take all his teeth out.”

## Tooth Color and Description

- A significant association was found between the color terms and descriptions of the affected teeth

	Stained/Spotted ( <i>Manchado</i> )	Decayed/Caries ( <i>Picado/Caries</i> )	Rotten ( <i>Podrida</i> )
White/ <i>Blanco</i>	5		
Beige/ <i>Beige</i>	2	1	
Yellow/ <i>Amarillo</i>	15	4	
Brown/ <i>Café</i>	2	4	
Black/ <i>Negro</i>	5	2	4

†  $r_s = -0.435, N=44, p < 0.01$

## Discoloration and Care Seeking

	No Action	Self Care	Asked Dentist	Dental Visit
White/Blanco (normal structure)	1	1	1	
Beige/Beige	3	1	1	
Yellow/Amarillo	1	5	3*	3*
Brown/Café				1
Black/Negro (structural problem)			4	6

?  $r_s = -0.642, N=31, p < 0.01$

\* 2 of the 3 cases described a structural problem

## Discussion

- Only one previous study found (Horton & Barker, Comm Dent Hlth in press)
  - Rural Latino child caregivers described "dark stains"
  - Sought care only when discoloration was accompanied by pain
- The present study expanded this topic
  - Urban Latino population caregivers described a wider range of colors
  - Associated the discoloration with a range of tooth disintegration
  - Pain was not mentioned as a necessary prompt for seeking care

## Conclusion

- Latino caregivers were not certain what caused tooth discoloration and had many alternative ideas about this
- Although the caregivers expressed concern with discoloration of their children's teeth, they did not necessarily seek professional advice or care
  - Generally, dark tooth discoloration with severe structural damage prompted a dental visit
  - Less severe discoloration did not prompt a dental visit

## Study Implications

- More caregiver education is needed about early warning signs of tooth decay
- Dental practitioners need to understand the meanings of terms like *manchado*, *picado* and *podrido* to Latino patients so that better focused educational messages can be developed

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### Research Team

Judith C. Barker, PhD (PI)  
Sarah Horton, PhD  
Kristin Hoeft, MPH  
Erin Masterson, BA

Jane A. Weintraub, DDS, MPH  
Susan Hyde, DDS, MPH, PhD  
The CAN DO Center

