Oral Health and Hygiene in Children Ages 6 Months to 5 Years Seen at El Paso Community Wellness Centers

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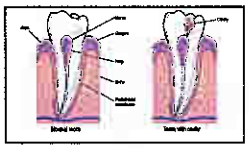
INTRODUCTION and BACKGROUND

- In pediatrics, dental decay and lack of dental services are reaching a critical point where more effort must be made to change how primary care providers view these issues.
- Dental decay is the most common chronic disease of children aged 5 to17 years- 5 times more common than asthma (Oral Health in America: A Report of the Surgeon General, 2000).
- Fewer than 1 in 5 Medicaid-covered children received at least one preventive dental service within the previous year (CDC, 2004).
- The children most at risk of decay and complications from decay are those in Medicaid or without any insurance.
- Recent NHANES data report that Mexican-American children had higher prevalence of caries of their primary (2-11 years of age) and permanent teeth (6-19 years of age) (54.9% and 48.8%, respectively) than African-American (43.3% and 39.9%) and non-Hispanic white children (37.9% and 38.8%).
- Untreated caries can lead to chronic pain and early tooth loss.
- The best time to intervene in development of tooth decay is when the primary teeth are first erupting and to continue until the permanent teeth erupt (Keels, 2005).
- Only 7% of general dentists report treating patients with Medicaid coverage (Seale NS et. al., 2003).

Early Childhood Tooth Decay



Severe Early Childhood Tooth Decay

BORDER HEALTH SIGNIFICANCE

- Of Hispanics surveyed in a national study, only 45% of those living in Texas compared to 66.1% living in NY State had visited a dentist in the previous year (CDC, 1999 data).
- El Paso County data for 2001 showed the ratio of population per dentists to be 5,784 vs. a ratio of only 2,820 for the state of Texas (Texas Department of Health, 2001).
- Of 147 practicing El Paso dentists only 30 accept Medicaid (unpublished communications).
- In Far East El Paso County a large proportion of poor children and their families live in rural areas where public transportation, and even paved roads or houses with running water, do not exist.
- The average household income for these areas is $21,964 for Sparks, $48,589 for Horizon City and $19,514 for Tornillo.
- The average educational attainment for Sparks and Tornillo is only 29% graduating high school and only 1-2% attaining a bachelor's degree (Census Bureau, 2000).

OBJECTIVES

- To determine the prevalence of dental decay and gum disease among children 6 months to 5 years of age in the areas served by the Child Wellness Centers in Horizon and Tornillo, Texas .
- To assess the relationship between the prevalence of dental decay and access to care using prevalence ratios.
- To determine primary contributing factors of tooth decay in these areas.

METHODS

- Cross-sectional descriptive design to investigate prevalence of tooth decay within Horizon and Tornillo communities.
- Study subjects were children ages 6 months to 5 years seen at each of the two wellness centers.
- Sample size was 200 children from Horizon and 100 from Tornillo (n=300). Our target population is that of all children in these rural areas within that age range.

Inclusion Criteria

- Age within study range
- Visit to one of the centers for a Well Child Check (WCC)
- Either Spanish or English as the primary language

Participation Selection

- Subjects were selected on the basis of showing up for their WCC
- Multiple children from same household were enrolled as long as they fit inclusion criteria.

Study Instrumentation

- Children were assessed for decay and gum disease using a standardized oral screening tool (See Figure 1).
- Children and parents were surveyed regarding oral history and habits (See Figure 2).
- Prior to the start of the study, all participating physicians were trained by local dental educators and dentist on how to perform a complete oral screening, how to apply topical fluoride varnish, and how to provide dental health education and nutrition counseling.
- Based on the findings of the exam, pediatricians assisted in locating the child with a dental home within the community.

Figure 1. Oral Health Screening Intake Form

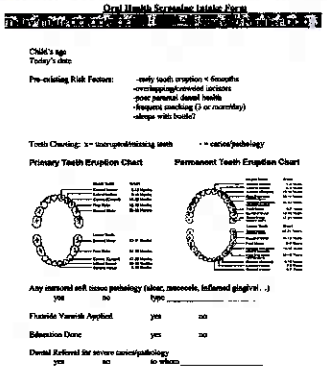
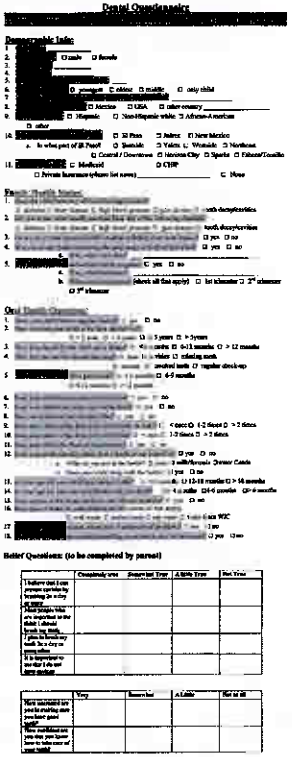


Figure 2. Dental Questionnaire



RESULTS

- Of 300 children surveyed, 281 met full criteria.
- About 94% self-identified as Mexican Hispanic origin, with 94% being U.S.-born and 5% Mexican-born.
- Average patient age was 22.2 months.
- Among 254 (88%) surveyed patients Medicaid was reported as primary insurance.
- Affected teeth was seen in 58 (20%) of children, ranging from 1 to 20 teeth per child.
- Children who were still using pacifier at time of study was 105 (40%).
- Children who had early tooth eruption before age 6 months was 18% of sample.
- Other dental conditions such as trauma, gingivitis, and malocclusion were seen in 7 children.
- Percentage of children who still drink from bottle or cup at night was 30%.
- About 61% of patients drink bottled water and 27% drink tap water.

FINDINGS and CONCLUSIONS

- In this sample group the prevalence of caries was only 20% as compared to the NHANES data reporting that prevalence of caries in primary teeth of Hispanic-American children was about 55%.
- NHANES surveyed children 2 to 11 years, while we surveyed 6 months to 5 years.
- In those children with tooth decay many had more than half the number of teeth affected. This suggests that the overall prevalence is significant for this age group and the morbidity rate for a small group of children is noteworthy.
- Moreover, risk factors such as pacifier use and using a bottle at night are still prevalent in this population despite education about these practices.

DISCUSSION and FUTURE PLANS

- Researchers intend to further assess significance of fluoridated versus unfluoridated water.
- Researchers plan to assess the significance of insurance (or lack of) on frequency of dental visits Impact of parental oral health beliefs on dental health care of their children.
- Researchers also intend to attempt phase 2 of research study in which fluoride varnish application by primary care providers is assessed (See Figure 3).

Figure 3. Dr. Arturo Hernandez applying fluoride varnish on patient in February 2007

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