

Abstract

Project Objectives: The goal of Bright Smiles for Babies is to provide training in a variety of settings to dental and non-dental professionals including dentists, dental hygienists, public health nurses, pediatric nurse practitioners and physicians regarding the fluoride varnish and anticipatory guidance.

Target population(s): Infants 0- 36 months of age from low-income families at high risk for early childhood caries and their health care providers.

Project Description: This specific study provides a descriptive analysis of data from a cohort of children (0-3 years) receiving preventive oral health services in an ambulatory pediatric medical clinic from an interdisciplinary team of pediatric medical and dental providers.

Methods/Strategies: Over a 36-month period (2005-2008), 495 children ages 0-3 years of age. Preventive oral health services provided consisted of 1) knee to knee oral screening and risk assessment 2) oral health education for caregivers and 3) fluoride varnish treatment. These children were predominantly publicly insured (Medicaid/S-CHIP). Descriptive characteristics of the cohort have been examined.

Results/Impact: 17% of children had signs of dental caries with 11% having white-spot lesions. According to risk assessment, 72% were categorized as 'high' risk, with 25% of children having family members with active tooth decay. 26% of children were documented as having sub-optimal fluoride exposure.

Conclusion/Key Lesson's Learned: Significant levels of decay and white-spot lesions were found in these children and the majority of caregivers reported factors categorizing their children as high-risk for early childhood caries.

Background

- The American Academy of Pediatrics (AAP) and American Academy of Pediatric Dentistry (AAPD) now advocate that all infants receive an oral health screening and risk assessment by one year of age.

- The pediatrician can play a key role in the establishment of the dental home and in providing preventive dental services in a primary care setting.

- Infants can benefit from oral health screenings, disease prevention, anticipatory guidance, and appropriate referral for dental services in a medical setting.

Objective

This study provides a descriptive analysis from a cohort of children (0-3 years) receiving preventive oral health services in an ambulatory pediatric medical clinic.

Project Components

- Cross-sectional survey of pediatric medical residents' knowledge of oral health and dental-referral behavior.
- Data collection on a cohort of children (0-3 years) receiving preventive oral health services in an ambulatory pediatric medical clinic between July 1, 2005 and June 30, 2008.

Training and Data Collection

- Provider training for both pediatric medical and dental residents consisted of both didactic and patient simulation.
- Provider training take places annually with both medical and dental residents training together.
- Pediatric medical trainee survey at baseline (2005) of knowledge, opinions, behavior, and self-perceived competency in areas of infant oral health.
 - Identifying tooth decay
 - Risk assessment
 - Referral behavior
- Preventive oral health services provided consist of:
 - knee to knee oral screening and risk assessment
 - oral health education for caregivers
 - referral to a pediatric dental clinic
- The utilization of dental services was examined by the presence of:
 - a dental visit.
 - category of dental service
- A descriptive analysis of baseline data was completed.

Trainee Results

- Trainees who were more confident in identifying tooth decay in early childhood were more likely to examine children's teeth for signs of dental decay (P=.004).
- Trainees were less confident in assessing risk of tooth decay in infants and therefore were less likely to perform an infant oral health risk assessment (P=.009)
- Trainees did not associate the mother's dental health with the concept of bacterial transmission from mother to child despite expressing an understanding of the etiology of the disease process.
- Trainees who were less confident in deciding if a child needs a referral to a dentist less frequently referred infants for dental care (P=.002).
- Only 25% of trainees were likely to refer for dental care based on risk factors without obvious tooth decay.
- Only 48% of trainees follow the AAP recommendation of the establishment of a dental home at age one.

Dental Status of Infants

- N=304 Medicaid enrolled infants received preventive oral health services in the VCU Pediatric Medical Clinic.
- Mean age of 19 months (sd=9.02).
- Fifteen percent had signs of tooth decay.
 - 8% had obvious decay
 - 12% had white-spot lesions
 - 12% had visible plaque on teeth
- Risk Assessment
- 52% are categorized as "high-risk" for decay.
 - 35% of infants had family members with active decay.
 - 17% report sub-optimal fluoride exposure.
 - 12% report eruption of teeth earlier than 6 months of age.
 - 33% report taking the bottle to bed.
 - 28% report snacking more than 3x per day.

Dental Utilization

Preventive Oral Health Services	%	Mean (Range)
Fluoride Varnish	86	
Anticipatory Guidance	100	
Dental Visit	45	
Mean number of visits		0.92 (0-7)
Mean number of procedures		3.27 (0-29)
Preventive Services	22	1.38 (0-10)
Restorative Services	3	0.48 (0-17)
Of those infants with a Dental Visit (n=137)		
Mean number of visits		2.06 (1-7)
Mean number of procedures		7.32 (1-29)
Preventive Services	97	3.09 (0-10)
Restorative Services	25	1.07 (0-17)

- N=1003 claims were found for 137 infants
 - 51% were from general dentists
 - 48% were from pediatric dentists
 - 1% from other dental specialists



Conclusions

- Significant levels of decay and white-spot lesions were found in these children
- The majority of caregivers reported factors categorizing their children as high-risk for early childhood caries.
- 45% of children were found to have had a dental visit according to Medicaid claims.
- The majority of these children received preventive services, with 25% having restorative services.

Future Analysis

- Time dependant analysis of dental claims
 - Time to first Dental Visit
 - Establishment of a Dental Home
- Comparison to the dental utilization of a random sample of Medicaid/SCHIP infants.

Acknowledgements

This research was funded in part by a NIDCR grant K22-DE-016084 and a VCU AD Williams Grant.