

**Bright Smiles for Babies:
Fluoride Varnish Study of Virginia Early Head Start Children
Report**

Early childhood caries (ECC) is a preventable, very destructive oral disease of young children. It is a serious public health problem that is highly prevalent among children of low socioeconomic status. In 2005, the Division of Dental Health (DDH), Virginia Department of Health (VDH) implemented the Bright Smiles for Babies (BSB) fluoride varnish program and study targeting the 13 Early Head Start (EHS) programs in Virginia. The purpose of the three-year study was to integrate oral health education and preventive services into an existing early child program, by providing education to parents and staff, and varnish applications to young children. The overall goal was to increase the number of children receiving dental prevention services and to reduce the incidence of ECC in children in EHS.

The study began in 2005 with the voluntary participation of all 13 EHS programs. It represented the first of its kind in Virginia to measure the prevalence of ECC in EHS children. Oral screenings were conducted on all EHS children whose parents consented to participation, and repeated every year after that for a three-year period. Fluoride varnish was applied every six months. Fluoride varnish is a topical fluoride application that is safe and easy to apply. It is the newest public health intervention for prevention of tooth decay in children who are at high risk for developing ECC. The screenings and varnish applications were performed mostly by DDH staff and local VDH dental staff.

Parents were also asked to complete a survey when they gave consent for their child to participate. The survey was administered annually throughout the three-year study; and asked about home care, dental visits, and oral health knowledge.

Key findings from the surveys:

- There was a steady increase in the percentage of EHS children who had ever visited the dentist across the three-year study period. At the beginning of the study, less than 12% reported that their child had ever visited the dentist, compared to 23% by the third year.
- Parents who were told by a professional when to start taking their child to the dentist were more likely to report that their child had ever visited the dentist.
- Over the three-year period, there was a 16% increase in the percentage of parents who were familiar with the topical application of fluoride in very young children.
- Although most parents understood that germs cause tooth decay, most were unaware that the bacteria is transmitted from parent to child.
- At least half of caregivers were unsure or did not believe that cavities in 3 year old children need to be filled. However, over the three-year period, there was a 7%

increase in parents who agreed that cavities in the teeth of 3 year olds need to be filled.

- Most of the surveyed parents indicated that children should start going to the dentist at 1 – 3 years of age, increasing from 83% to 88% over the the three year period.
- The percentage of children with untreated decay declined each year primarily on smooth tooth surfaces.

Discussion:

The findings of this study were encouraging for several reasons. Integration of oral health services into Early Head Start programs appears to have contributed to an improvement in parental oral health knowledge and behavior. Over the three-year period, parents became more knowledgeable about topical fluoride applications for young children, the infectious nature of ECC, and the importance of early dental visits and restoring baby teeth. The program also resulted in a reduction in untreated tooth decay over a three-year period. The data suggest that fluoride varnish was instrumental in reducing untreated decay on smooth surfaces.

Delivering the varnish services and education programs presented challenges and successes. The average annual participation rate for the varnish program was approximately 30%. The rates were lower for those programs with larger numbers of home-based enrollees, who often have transportation problems. Developing local community partners to provide the services was successful in most of the programs. With the exception of one program, that partnered with a community health center dentist, all localities were able to utilize their local VDH public health dental staff.

Oral health education programs were offered to parents either in a group setting or individually during the actual varnish event. Eight EHS programs held group parent trainings. The group events were offered during parent meetings, and attendance was typically very low. However, when the parent was present at the varnish event, the parent received one-on-one oral health information that was specific to the child and parent.

Currently, eleven programs have community providers committed to help sustain the prevention program. Among the two programs without a sustainable plan, one failed to maintain communication with DDH. The other program was encouraged by the local VDH health department to bring the children into the local dental clinic for varnish applications, rather than have on-site applications.

Recommendations:

The Virginia Department of Health recommends the continuation of the BSB program through EHS. Fluoride varnish is proven to be effective in decreasing tooth decay. Providing services through EHS programs improves access to care for children in high need of preventive services. VDH plans to provide continued support for the program.

Informational packets have been developed and were given to EHS program contacts in September 2008. In order to maintain the semi-annual varnish applications, the EHS staff person will be responsible for initiating contact with the dental provider who will be providing the screenings and varnishes. Continuing to provide educational opportunities to parents regarding the importance of healthy primary teeth in their young children is an important prevention service. Parent education can be provided by trained EHS staff or by local dental providers. Resources are available through the DDH for providing parent education seminars. DDH encourages and will provide staff training upon request to ensure that EHS staff have the most up-to-date oral health information.

Note: The full report is available upon request: Susan.Pharr@vdh.virginia.gov

7/27/2009