

Title:

A Nurse Practitioner-Led, Community-Based Project to Improve the Oral Health of Preschool Children

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References:

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Abstract Summary:

Participants will learn how to form an interprofessional team for the purpose of community service learning. This poster provides an example of how to bring academic providers, students and community together to increase learning opportunities while address health disparity issues.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
After viewing this poster the participant will be able to describe the impact of oral health disparities in low income preschool age children.	Poster and discussion with author
After viewing this poster the participant will be able to develop an interprofessional team for service learning	Poster and interaction with author

Abstract Text:

Introduction/Background Pediatric health experts recommend that a child's first dental visit should be within six months of the first tooth eruption or 12 months of age whichever comes first. The major oral health objective of Healthy People 2020 is to prevent and control oral and craniofacial diseases, conditions, and injuries and improve access to related services (CDC, 2013b). In order to accomplish this lofty goal health care professionals will need to focus their attention on the prevention of dental caries, which is critical to the wellbeing of children. Dental caries are the leading chronic illness in children. More than one-fourth of preschoolers had at least one carious lesion before entering kindergarten. Caries lead to a variety of problems such as oral pain, excessive school absenteeism, poor school performance, failure to thrive, and low self-esteem during childhood and set the stage for continued poor oral health as an adult. In the United States geographic, financial, and health care access inequities exist in oral health services. Children in low-income urban areas experience the brunt of this problem.. Availability of toothbrushes and fluoride toothpaste, caregiver knowledge on how to use these and how to teach and supervise their use with children of all ages, and the application of fluoride directly to teeth are all effective and relatively low cost ways to reduce dental caries. Topical fluoride varnish is an inexpensive, yet effective prevention technique to reduce childhood caries but is underutilized especially with children who are most at risk.

Poor children who live in urban and rural areas have unmet oral health needs and require access to qualified individuals who can provide dental assessment and preventive treatment. Between birth and six years of age children are seen frequently by primary care providers for routine preventive health care. Birth through six years is also the period of time when children are most at risk for early childhood caries (ECC). The American Academy of Pediatric Dentistry has recommended that pediatric primary care providers perform oral health assessments. Pediatric nurse practitioners (PNP) have an opportunity to assess children, teach parents about oral health strategies and stress the importance of prevention practices such as daily brushing, flossing and avoiding foods high in glucose. Therefore it stands to reason that PNP students should be trained to perform oral health assessments and apply topical fluoride varnish.

Purpose The purpose of this project was three-fold, 1) Determine the impact of a community based, oral health assessment and fluoride varnish application program for preschoolers. 2) Train pediatric nurse practitioner (PNP) students to perform oral health assessment and fluoride varnish application for young children. 3) Foster inter-professional learning opportunities between nursing and dentistry.

Methods The primary investigator formed an interprofessional team of health professionals consisting of the Director of the Rutgers University School of Dental Medicine's Pediatric residency program, the lead faculty for the Rutgers University School of Nursing Level 4 Primary Care Pediatric Nurse program and the Community Liaison for the Center for Urban Youth and Parents. The team worked collaboratively to develop the project protocol and recruit two local Newark (New Jersey) preschool centers where it could be implemented and evaluated.

PNP students completed modules from the online *Smiles for Life National Oral Health Curriculum*. During class students received a lecture about oral health disparities and practicum experience with fluoride varnish application. Pediatric Dental Residents received a lecture about pediatric oral health disparities, pediatric development and the role of PNPs in pediatric oral health.

The American Academy of Pediatrics Oral Health Risk Assessment Tool was used to determine oral health risk, protective factors and clinical findings. The tool is comprised of yes/ no responses that are recorded by the user. Key risk items are noted with a yellow triangle. If any of the “yes” findings are in an area with a yellow triangle, the child is considered to be at high risk for oral health disease.

Two community preschools volunteered to participate in the project. The community liaison worked with the preschools and Rutgers personnel to establish a date and time for the intervention. Packets containing a demographic questionnaire and a consent form were put in each child’s cubby (personal space to store nap items and teacher-parent information) and were sent home with parents. Preschool directors asked that the older children who attended the afterschool programs at the preschool centers be included therefore we also invited them to participate. Their packets were placed in their book bags to go home to parents. The majority of the children were Black ($n=40$), and the remainder were Hispanic ($n=6$).

A nationally certified PNP, a board certified dentist, dental residents and PNP students provided oral health assessment and fluoride varnish for the children. After their assessments the children received a toothbrush, fluoride toothpaste and floss. A note with findings and recommended intervention (if needed) and a list of local pediatric dentists were sent home to the parents.

Results Forty-six children between the ages of two and eleven years old were screened. Nine children (20%) were referred to a pediatric dental provider for the treatment of caries. One child was referred due to a fractured tooth. PNP students had an opportunity to practice their new skills with children and all stated that the learning experience was valuable. Additionally the preschool directors have instituted brushing after lunch and prior to nap as a daily routine activity for their students. Throughout the project the community agencies and families demonstrated strong buy-in for the attention being paid to their children’s health. They demonstrated understanding of the strategies offered and planned ways to continue incorporating them into daily life,

Conclusion Community based oral health assessment and fluoride varnish application in preschoolers is a practical, low cost way to provide preventive oral health services for urban preschoolers. Additionally, realistic, interprofessional, service learning opportunities are an effective way to prepare PNP students to meet the oral health needs of underserved children and to incorporate a model of interdisciplinary practice. Organizing teams for planning and implementing this oral health program required time and effort but resulted in creating collaborations, a goal-oriented program grounded in science, and measurably effective outcomes that can be replicated.