Urban Community Dental Health Outreach Program

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Program Objective

To enable the residents of an impoverished urban community to achieve good oral health through fluoride varnish, dental education, and provision of oral health supplies.

The Burden of Dental Disease

Dental caries, or tooth decay, is the most common chronic disease in childhood and is five times more common than the next most prevalent chronic disease, asthma1. Dental problems, such as severe cavities, can create a great deal of pain and suffering, yet are also the number one unmet health need for children1. Oral health is inextricably linked to overall health, illustrated by the association between cavities and conditions such as diabetes and cardiovascular disease2. Dental problems can also have severe consequences on social interaction and have been shown to lower performance at school and work.

The burden of dental disease is not equally distributed over the population; significant economic and racial disparities in dental care and outcomes exist currently3. In his 2000 report on the oral health of America, Surgeon General David Satcher called these disparities “a ‘silent epidemic’ of dental oral disease affecting some population groups.”4 While Medicaid does cover dental services, Wisconsin families report barriers to receiving care, such as difficulty in finding a dentist who will accept this form of insurance5. Dentists cite low Medicaid reimbursement rates as a top reason for rejecting Badgercare (Medicaid) patients6.

Fluoride varnish is an effective tool to prevent tooth decay.7 Composed of a 5% solution of sodium fluoride in paste resin, fluoride varnish is quickly and painlessly painted on the teeth and allows for greater absorption of fluoride than other delivery methods, such as rinses and gels. A Cochrane review found a prevented fraction estimate for cavities of 46% with fluoride varnish application two to four times per year8. Its effectiveness, safety, low-cost, and ease of application make it a perfect choice for preventing cavities in high-risk populations, such as low-income children.

The Community

The Allied Drive Neighborhood is one of Madison’s most densely populated and economically challenged communities. Residents face many barriers to health, including unemployment, violence, drug abuse and trafficking, as well as lack of access to appropriate and affordable health care, child care, food, and transportation.

Our project partnered with the Allied Wellness Center, an established and community-based grass-roots holistic health center. In addition, University of Wisconsin-Madison volunteers were brought into the neighborhood, which is typically isolated from the greater Madison community.

Project Components: Addressing Barriers to Oral Health

Four dental health sessions were organized every other Saturday afternoon for two months. Sessions were held in the neighborhood at the local Boys & Girls Club, accessible by foot to the entire community. Each session consisted of three components:

1) Education sessions

Education sessions led by undergraduates from UW-Madison were held for adults and youth. The youth sessions focused on proper brushing and flossing technique, frequency, and duration. Brushing after the use of red dye tablets allowed children to visualize tooth surfaces missed, thereby reinforcing proper technique. The negative impact of sugar found in soda and candy was also discussed and illustrated, along with healthier beverage and food alternatives.

Adult education sessions covered the same content as the youth sessions, but also prompted parents to identify themselves as powerful agents to promote their child’s children’s oral health. Parents were warned of baby bottle tooth decay (also known as early childhood caries), a pattern of tooth decay in young children often seen on the upper front teeth. Adults were educated about ways to prevent this, and how to perform weekly “lift the lip” exams on their children to recognize white spots, early signs of cavities.

2) Provision of oral health supplies

Access to dental supplies is limited for many in the community due to economic reasons. Low-income families have a higher incidence of toothbrush sharing, a behavior which can increase the spread of cavity-causing bacteria among family members9. Therefore, free toothbrushes, toothpaste, and dental floss were provided for each participant.

3) Fluoride varnish treatment

Each participant with a signed permission slip (for those under 18) was offered an oral health screening and application of fluoride varnish by a dentist, doctor, or dental hygienist under the supervision of a doctor. The goal was that each individual would receive three treatments over the two month period. Since no eating or drinking is allowed for two hours after application, healthy food and drinks were offered prior to treatment. Each participant was provided with follow-up instructions including eating and brushing restrictions, and times and dates for follow-up application.

Evaluation and Results

Project evaluation was performed using orally administered pre- and post-surveys. Survey questions assessed not only dental habits, but also knowledge and efficacy, thereby better helping us understand the barriers that face this specific community and better tailor future oral health efforts.

Results showed an average increase in brushing duration and frequency for children after attending dental health sessions, and increased knowledge of positive oral health behaviors. The adult sample size was too small to draw any conclusions.

Challenges Face

The greatest challenge our project faced was turning of neighborhood members to participate in the dental health sessions. While there was a fairly high turnout of young children, very few teenagers and adults attended. Participation was facilitated by the active involvement of Boys & Girls Club staff, who encouraged children at the Boys & Girls Club that day to participate and facilitated obtaining parental permission. From discussions with key stakeholders, we hypothesize that the low adult turn-out may be related to the fact that more pressing concerns, such as housing and unemployment, preclude health from being a top priority. With youth under 18 years old we also faced the barrier of needing parental permission slips for fluoride varnish application.

Another concern for the project was finding dental professionals to apply the fluoride varnish. Often the schedule of the dentists and hygienists conflicted with times that were convenient for neighborhood residents. In addition, finding dentists willing to accept those patients in great need of restorative work with either no compensation or Medicaid reimbursement was quite difficult; however, all those who participated in the dental health sessions were offered information on resources to find regular dental care and referrals for same.

References