Healthy Smiles Healthy Growth 2004 – Basic Screening Survey of Migrant and Seasonal Farmworker Children in Illinois

Sherri M. Lukes, RDH, MS; Sangeeta Wadhawan, BDS, MPH, Lewis N. Lampiris, DDS, MPH

Abstract

Objectives: *To obtain baseline data for caries prevalence, use of dental sealants, and dental treatment needs for children of migrant and seasonal farmworkers (MSFWs) enrolled in the Illinois Summer Migrant Education Program, 2004.* ***Methods:*** *This study adapted the methodology of Healthy Smiles Healthy Growth 2003-2004, by Illinois Department of Public Health (IDPH), Division of Oral Health. Oral screenings were conducted for children of migrant and seasonal farmworkers at participating schools.* ***Results:*** *Of the 840 eligible children 58% participated in the assessment. Overall caries experience was 64%. Untreated decay was observed in 42%, 8% urgently needed treatment, and sealant prevalence was 51%. Among those 6-9 years old (n=254), 47% had cavitated lesions, 12% urgently needed treatment, and 45% had dental sealants. For children 10-15 years old (n=198), 34% had cavitated lesions, 4% urgently needed treatment, and 65% had dental sealants.* ***Conclusions:*** *The population's mobility suggests need for more frequent surveillance for effective programmatic planning.*

Key Words: Migrant and seasonal farmworkers, migrants, underserved, oral health, oral health surveillance

Introduction

Migrant and seasonal farmworker (MSFW) families experience a myriad of health problems including disproportionate levels of oral disease (1-6). In the landmark oral health report of 2000 (7), Surgeon General Satcher identified these families as part of an ethnic minority (most are aware that MSFWs are predominantly Mexican, Hispanic or Latino, depending on preference of designation) that experiences significant oral health disparities. Farmworker status also creates additional needs and challenges. Dr. Satcher called for more research on this subpopulation in order for program managers and policy makers to understand the problems faced. Appropriate solutions can then be developed specific to the population.

In spite of a paucity of oral health data on the population, several studies indicate that a significant number of MSFW children have never even seen a dentist, making them an underserved population (1,4). Decay rates are twice that of the general population (6), making dental caries the most common untreated health problem in farmworker children (1,2). The reasons for poor oral health are varied, but are chiefly access to care barriers such as cost, language, transportation, service hours of clinics, and cultural beliefs (1,3,5).

The paucity of health data on MSFW children makes programming to meet oral and general health needs problematic. The purpose of the study was to obtain baseline data for caries prevalence and the use of dental sealants and treatment need among children of MSFWs enrolled in Illinois' summer, 2004, migrant education program.

Methods

Since 1983, dental services have been provided to MSFW children at participating schools in Illinois' migrant education program through a public/private partnership. Funded by several entities, portable equipment is utilized to provide comprehensive dental care in the schools. This study was a collaborative effort among the dental provider agency, Community Health Partnership of Illinois (CHP), a university professor from a baccalaureate dental hygiene program, the Illinois Department of Public Health (IDPH) and the schools participating in the Illinois migrant education program. Nine of the 11 schools offering summer migrant education programs participated in the dental services program and the study.

A request for permission to do the study was added to the current permission form sent home with all children enrolled in the summer migrant education program, grades K-12, which, when returned, allowed the provision of dental services. Permission to do the study was also granted by an institutional review board.

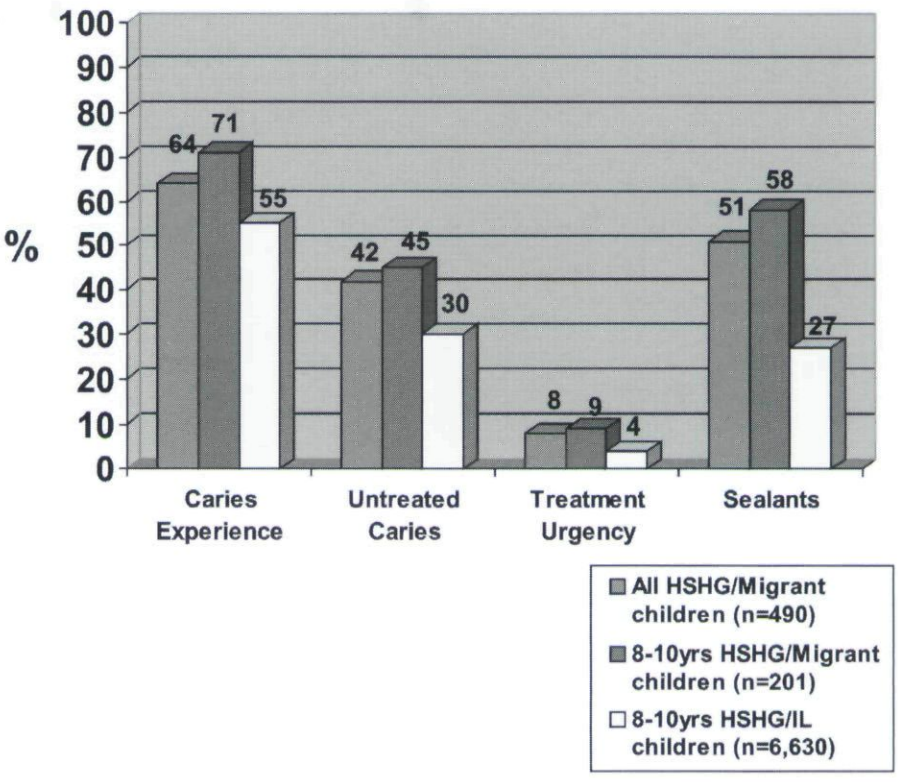
Collecting data for oral health surveillance can be very costly and time consuming when using standard techniques such as the DMFT indexes, limiting the opportunities for data collection at state and local levels. The Association of State and Territorial Dental Directors (ASTDD) Basic Screening Survey, developed in 1999, gained acceptance as an appropriate visual-only screening tool to collect oral health data (8,9). The Illinois Department of Public Health (IDPH) utilized this tool in Healthy Smiles

Send correspondence and reprints to: Sherri M. Lukes, RDH, MS, Associate Professor, Dental Hygiene, HCP-CASA, MC 6615, Southern Illinois University, Carbondale, IL 62901. Phone: (618) 453-7289; Fax: (618) 453-7020. E-mail address: smlukes@siu.edu. Ms. Lukes is affiliated with Southern Illinois University, Carbondale, Illinois. Ms. Wadhawan and Dr. Lampiris are affiliated with the Illinois Department of Public Health – Division of Oral Health. Source of Support: This project was made possible through a grant from Illinois Department of Public Health – Division of Oral Health. Previous presentation: Presented as a poster at the National Oral Health Conference, May 2005, Pittsburgh, PA

Healthy Growth 2003-2004, an assessment of third graders in Illinois. The study outlined in this manuscript adapted the same methodology for MSFW children who were enrolled in migrant education programs throughout Illinois during summer, 2004. The Basic Screening Survey was conducted for children who had completed kindergarten in 2004 through high school, and who had also returned a permission slip for dental services.

The dental hygiene professor, trained to do basic screening surveys by IDPH, collected the data at the different sites as children were receiving dental care. At one site the data were collected by a Mexican-trained dentist, an employee of the dental provider agency after calibration with the dental hygiene professor. Using a flashlight and tongue blade, visual examinations provided results for total caries experience, presence of dental sealants on first permanent molars, and treatment urgency. A recorder documented the oral findings for the screener. All data was entered into Microsoft ACCESS database and analyzed by IDPH using SPSS.

Figure 1
Oral screening results: HSHG/MSFW, HSHG/IL, All HSHG/MSFW



Results

Of the 840 eligible children, ranging in age from 4-19, 58% (490) participated in the oral screenings at the nine participating schools. Fifty four percent were female and 46% were male. At one school, nine Migrant Head Start children were inadvertently screened along with K-12 children and included in the total for the study. The two age groups selected for data presentation were 6-9 years old and 10-15 years old. Twenty-nine students did not provide birth date information or were older than 15, excluding them from data presentation according to age groups. The 6-9 age group was comprised of 254 children and the 10-15 age group 198 children, for a total of 452.

Of all the children in the study, 63.7% had caries experience. Untreated decay (unmet need) was observed in 42% of the total number of children screened, and 8% urgently needed care. Dental sealant prevalence for all ages of children was 51%. (see Figure 1) A comparison of children with sealants and those without indicated no difference in total decay, but there was a difference in untreated decay (37% and 47% respectively. Data not shown in table.)

Forty seven per cent of the children 6-9 years old had cavitated lesions with 11.8% urgently needing treatment. Thirty four percent of the children 10-15 years old had cavitated lesions and 3.5% urgently needed treatment. Forty five percent of the children 6-9 years old had dental sealants compared with 65.2% of those in the 10-15 year age group. (See Figure 2)

Discussion

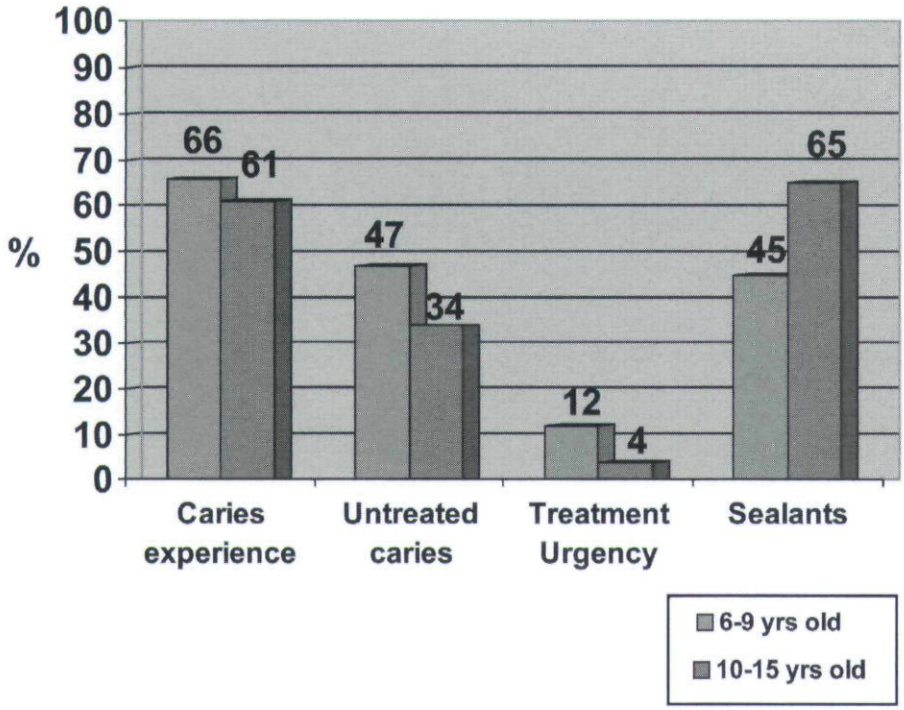
It is evident from the results of this study that there were fewer older than younger children enrolled in the summer migrant education program in Illinois. This is possibly due to the fact that older children often work in the fields themselves, along with their parents, as yearly income must be earned by all family members (4). It might also be the reason that there were fewer boys than girls, though the difference was small.

Dental caries is a problem for MSFW children. Comparing the state's HSHG assessment of third graders with the same aged children in this study, MSFW children in the third grade age range did not fare as well as the state sample. MSFW children had 70.6% decay experience (n=201) compared to 55% for the state sample (n=6,630). Untreated decay was higher as well, 45.3% and 30% respectively.

Based on the decay experience and unmet needs in the two age groups of MSFW children, preventive interventions such as increased use of dental sealants as well as fluoride varnish programs might be considered at earlier ages. Certainly the results from this study justify continued funding for such programs to serve the population.

In spite of a high sealant prevalence, the high decay experience and unmet needs in this group of MSFW children in the presence of high seal-

Figure 2
Caries, treatment urgency and sealants by age groups



ant use is a concern. Sealants were present in 58% of the MSFW children screened, whereas only 27% of the state sample had sealants present (see Figure 1). The sealant prevalence in this group of MSFW children exceeds the *Healthy People 2010* goal of 50% for the nation. This finding implies that many of the children in the study have been in the Illinois migrant education program for some time, which is consistent with the literature concerning patterns of migration. Once a pattern is developed, families tend to migrate to the same area each year, shuttling between "home bases" (a Mexico or border state residence) and one US residence (1,5,10). In addition, Illinois has been targeting this population for the past ten years by funding the sealant portion of the dental provider's services. While the service provider is typically unable to meet all restorative needs each summer, there has been a concentrated effort for all participating children to receive preventive services. Although most sealant programs target children eight to ten years old, perhaps dental sealant intervention for MSFW children should begin at an earlier age due to the barriers they face in obtaining dental care. Other reasons for the high disease rate in the presence of concerted preventive programs need to be addressed. This is an area ripe for further study and results could be used to justify programming/policy changes for this underserved population.

Because this research is based on a small convenience sample of MSFW children in one state, its results are not generalizable, certainly a limitation of the study. The sampling approach also limited types of analysis. The finding of high diseases in the presence of high sealant use needs further investigation in multivariate analysis in a study with sufficient rigor of sampling. Given the paucity of data concerning the rural migrant population in Illinois, as well as the rest of the nation, however, these data help identify program and research directions to consider.

Source of Support

This project was made possible through a grant from Illinois Department of Public Health – Division of Oral Health.

Previous Presentation

Presented as a poster at the National Oral Health Conference, May, 2005, Pittsburgh, PA

Acknowledgements

The authors would like to acknowledge the contribution of Julie Janssen, RDH, MA, Division of Oral Health, Illinois Department of Public Health, for her efforts in securing project funding and for consultation throughout the study.

References

1. Gwyther ME, Jenkins M. Migrant farmworker children: Health status, barriers to care, and nursing innovations in health care delivery. *J Pediatric Health Care*. 1998;12(2)60-66.
2. Hanson E, Donohoe M. Health issues of migrant and seasonal farmworkers. *J Healthcare Poor Underserved*. 2003;14(2)153-164.
3. Lombardi G. *Migrant Health Issues: Dental/Oral Health Services*. Migrant Health Monograph Series (1). National Center for Farmworker Health, Buda, TX:2001.
4. Nurko C, Aponte-Merced L, Bradley EL, Fox L. Dental caries prevalence and dental health care of Mexican-American workers' children. *J Dent Child*. 1998;65:65-72.
5. Waldman HB. Invisible children: the children of migrant farmworkers. *J Dent Child*. 1994;61(3)218-21.
6. Weinstein P, Domoto P, Wohlers K, Koday M. Mexican-American parents with children at risk for baby bottle tooth decay: Pilot study at a migrant farmworkers clinic. *J Dent Child*. 1992;59:376-383.
7. US Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.
8. Beltran-Aguilar ED, Malvitz DM, Lockwood SA, Rozier G, Tomar SL. Oral health surveillance: Past, present, and future challenges. *J Public Health Dent*. 2003;63(3):141-9.
9. Association of State and Territorial Dental Directors. Basic screening surveys: An approach to monitoring community oral Health. Columbus, OH: Association of State and Territorial Dental Directors, 1999.
10. National Commission on Migrant Education. Invisible children: A portrait of migrant education in the United States. Final report. Washington, DC: Author. (ED 348 206) 1992.