

ABSTRACT

Although preventable, dental decay is one of the most common chronic pediatric diseases that disproportionately affects children and families with inadequate access to quality dental care. In today's modern health care system, poor oral health is a primary sign of social inequality affecting low socioeconomic populations including Title I public schools.

The focus of the literature review performed is to address the main Oral Health Objectives of Healthy People 2030 in which accessible preventive care is the critical key to improving pediatric oral health within the next decade, increasing a higher quality of life in children throughout their life.

OH- 9	• increasing the proportion of low-income children who have access to preventive dental care
OH-10	• Increase the proportion of children and adolescents who have received dental sealants
OH-2	• Reducing the number of children and adolescents with active and untreated dental decay

INTRODUCTION

The Oral Health Objectives of Healthy People 2030 introduces baseline dental objectives that focuses on improving oral health conditions and accessibility to dental care. The initiative acts to reduce the prevalence of dental diseases and aims to provide high quality oral care to a wider population than in previous years, including low socioeconomic populations that have historically suffered from lack of dental care and access.

Title I federally funded programs, supported by the U.S Department of Education, concentrates on providing financial assistance to schools in low-income communities failing to meet state and federal academic standards. The federal aid is meant to ensure the success of students' who are impacted by their family's socioeconomic status.

In Title I schools, school-based oral health programs act as an accessible resource to sustainable and affordable oral health prevention and education for underserved communities. The universal oral health care framework aims to reduce obstacles of accessibility and dental decay experience while increasing prevention including dental sealants in low-income families.[Figure 1.1]

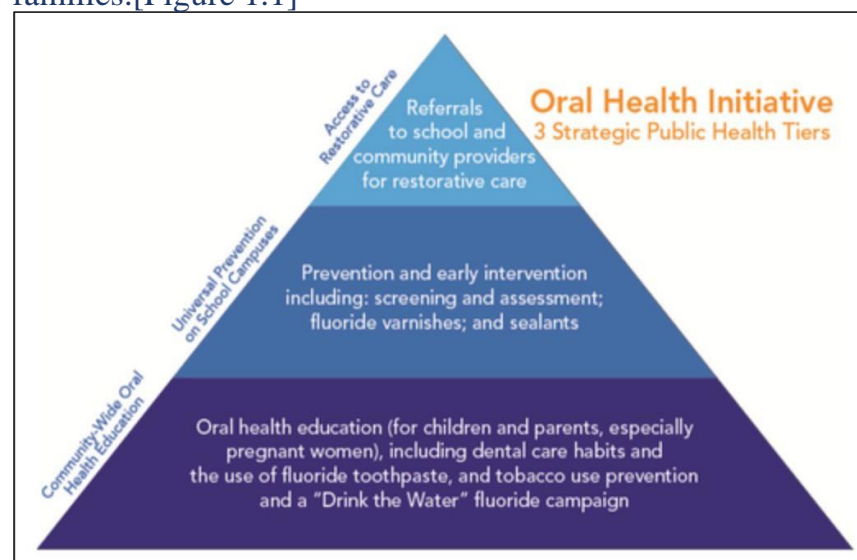


Figure 1.1 WHO Oral Health Initiative for Oral Public Health

METHODS

A literature review exploring the efficacy of a multilevel framework for school-based oral health programs that have become a resource for accessible care in low-income communities using several systematic reviews, meta-analyses and cohort studies.

Keywords: oral health, prevention, community, socioeconomic status, school-based programs, Title I, health literacy

REVIEW OF THE LITERATURE

In the systematic review, the public health multilevel framework provided by the World Health Organization (WHO) was designed to address accessibility, quality and implementation of school-based health programs. The framework included three areas of interest including improving health care access, increasing the health and well-being of school-aged children as well as encouraging adaptation of healthy oral health habits

into the daily lives of families. (Gargano et al., 2019)

As seen in Figure 2.1, high levels of dental decay were found in urban communities where minority families experienced multiple barriers to high quality oral healthcare. School-based oral health programs provided opportunities by offering preventive measures such as dental sealants and fluoride application along with dental screenings to determine the unmet dental needs of the community. With a 2-year follow-up of the program implementation, data showed a significant reduction in the proportion of children presenting with active dental decay. (Dudovitz et al., 2017)

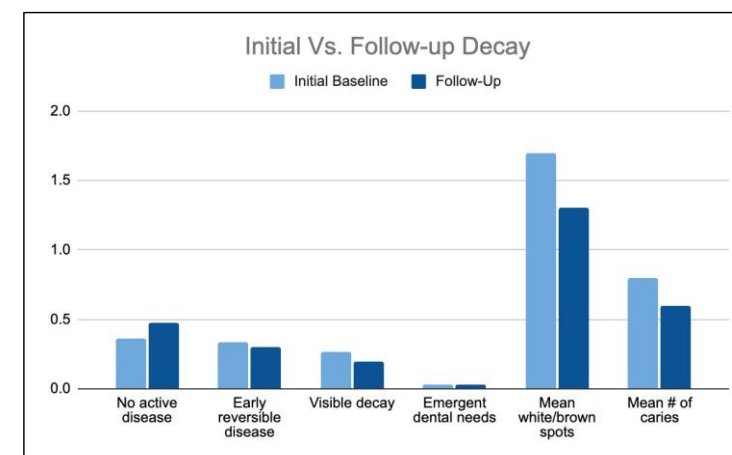


Figure 2.1 Initial screening data compared to follow-up data

The direct effects of school-based preventive oral health delivery programs include

- Reduced dental decay and caries experience
- Increased use of the oral health system along with preventive services
- Increased sealant use
- Increased proportion of patients receiving dental care (Niederman et al., 2017)

CONCLUSION

Maintaining oral habits in children includes adequate oral health literacy, family involvement in the routine, and frequent professional preventive care. The model of school-based programs has shown a direct effect on increasing preventive services to reduce the proportion of children lacking access to quality dental care, which helps to meet Healthy People 2030 goals for low-income children that have been affected by underlying social determinants of oral health.

The impact of school-based oral health programs effectively addresses Healthy People 2030 Oral Health objectives in reducing untreated dental decay, increasing the utilization of preventive dental sealants to do so, and overall, increasing accessibility of preventive care in low-income communities that have been impacted by barriers in today's oral healthcare system. Promoting oral health through accessible community-based programs has assisted in overcoming health care disparities affecting families and communities but is the first step of many. There is a need for further research on the effectiveness of universal implementation in these programs along with improvement of Federally Qualified Health Centers that can provide extended care to families treated and referred by school-based oral health programs.

According to the Community Preventive Services Task Force (CPSTF), the most common preventive measure used in the school-based programs are dental sealants used to prevent progression of dental decay in deep pits and fissures of the teeth. Data shows the implementation of sealants protect against nearly 80% of cavities for 2 years and 50% of cavities for up to 4 years. A 2016 NHANES study revealed higher caries rate yet reduced sealant placement among low-income children that do not have access to frequent dental care, therefore it is underutilized in communities it is most beneficial. (Ruff & Niederman, 2018)

In the United States, nearly 6.5 million children from low socioeconomic status families are eligible to benefit from school-based sealant deliveries but the data presents that nearly 60% of the eligible population does not receive dental sealants as a protective factor. The lack of prevalence of dental sealants in low-

income communities leaves children with THREE TIMES the risk of decayed first molars compared to children that receive dental sealants. (Griffin et al., 2016)

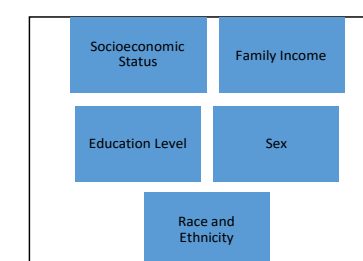


Figure 3.1 Common Risk Factors for low prevalence of dental sealants

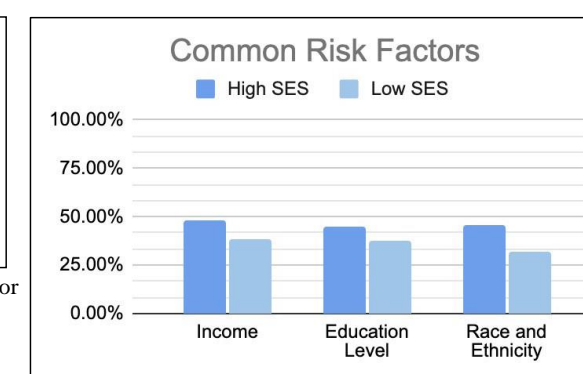


Figure 3.2 Effects of socioeconomic risk factors on dental sealant prevalence

A cohort study from 2018 shows that untreated dental decay is more prevalent in communities where most of the population in Title I schools are Hispanic, Non-Hispanic Black and Asian children affected by disproportionate levels of dental care. (Trudnak Fowler et al., 2018) By providing incentives such as educational oral health kits, family engagement and participation in oral health programs in the community increased with a reduction in active dental disease.

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