Social Determinants of Pediatric Oral Health

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KEYWORDS

• Public health • Social determinants • Oral health • Children • Pediatrics
• Inequalities • Health promotion • Risk factors

KEY POINTS

- There are significant oral health inequalities among children and a biologic approach to oral health intervention neglects the role of the social environment on oral health outcomes.
- Oral health is significantly affected by social determinants and the conditions in which people live, which include socioeconomic status (SES), family structure, social environment, and culture, among others.
- Interventions to improve oral health must address the interaction between multiple levels of risk factors in the socioecological and life course frameworks.

Functional health trajectories in adulthood are shaped by childhood health and socioeconomic circumstances; unhealthy and socioeconomically disadvantaged children are more likely to become unhealthy, disadvantaged adults.[1] Chronic diseases are now studied within a life course framework that considers health issues a consequence of exposure to damaging experiences in critical periods of life or accumulated over time.[1,2] Therefore, starting in utero, important developmental processes may be affected during critical periods, causing short-term and long-term effects, including on oral health. For instance, good chewing ability at 50 years of age has been related to regular dental care in childhood.[2] Furthermore, childhood patterns of dental visit influence later dental care patterns, providing a cumulative impact on oral health throughout the life cycle.[2]

The World Health Organization defines social determinants of health as "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies

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and political systems."[3] The socioecological framework proposed by Fisher-Owens and colleagues[4] considers the complex interaction between personal and environmental factors that influence children's oral health, including individual biology, relationship within and between families, community and social networks/support, and the physical environment. It is also important to recognize the role these elements play within broader structures, including the health care delivery system.

Focusing on changing the behaviors of high-risk individuals (mostly on substrate, microbiome, and diet), which is the usual approach in preventive dentistry, has not reduced oral health inequalities; in fact, it may have increased them.[5] Most behavioral approaches to date have been weak because they tend to be poorly designed and atheoretic and have largely ignored social determinants of health; thus, the recommendations are mostly anecdotal.

Using caries risk assessment tools alone is not definitive because of their lack of precision, and the conditions that create dental disease have not changed.[5] It is well known that the best predictor for future caries is past caries.[5,6] Therefore, a different approach to establishment and maintenance of oral health in children, which leads to good oral health in adulthood, must take into account the many social and biological factors that contribute to the development of the disease. There is currently a limited body of evidence that describes social determinants of pediatric oral health. The existing evidence-base is primarily derived from medical research or research from adult populations, and recommendations for children are primarily empirical in nature. The purpose of this article is to provide a brief description of these social determinants and discuss areas for future research.

KEY AREAS OF SOCIAL DETERMINANTS OF PEDIATRIC ORAL HEALTH

Socioeconomic Status

Socioeconomic circumstances early in life help determine future health outcomes, such as presence of chronic diseases. In the United States, approximately 7 million children live in deep poverty and more than 1 million in extreme poverty,[7] which is known to stunt a child's growth and development. Low SES and neighborhood poverty are significantly associated with a greater risk of caries, unmet dental care needs, and poor oral health–related quality of life (OHRQOL) due to, among other factors, the following[8–12]:

- Low parental educational level and oral health literacy
- Less access to home and professional preventive measures
- Material deprivation (inability to purchase dental products, lack of running water, and so forth)
- Poor dietary and oral hygiene habits
- Less social support
- Employment issues

Consequently, children of low-income families are the least likely to adhere to preventive recommendations and more likely to have untreated dental caries and poorer oral health than their high-SES counterparts.[6,13,14] Children from high-income and high-education families have a better OHRQOL,[15] whereas those whose mothers are wealthier and more educated have a higher rate of dental visits.[16] Listl and colleagues[2] showed that the number of books in the household, used as an SES proxy measure, had a significant influence on good oral health in midadulthood to late adulthood. Furthermore, children of migrant parents, who tend to come from a disadvantaged background, also have a poorer OHRQOL and face significant barriers to