THE IMPACT OF SOCIOECONOMIC FACTORS ON ORAL HEALTH

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ABSTRACT

This review study delves into the impact of socioeconomic factors on oral health, drawing from the FDI World Dental Federation's definition, which encompasses a holistic view of oral health as integral to overall well-being. It underscores the profound influence of socioeconomic status (SES) on oral health-related quality of life (OHRQoL), pointing out that lower SES correlates with worse oral health outcomes due to disparities in health behaviors and access to care. The review details how social factors such as income, education, and social environment significantly affect oral diseases, dental service utilization, and oral health behaviors. Through a comprehensive literature search, the study highlights the gap in research concerning the physical environment's impact on oral health, despite the well-established connection between socioeconomic factors and oral health issues. It emphasizes the need for integrated health interventions that address both individual behaviors and broader socioeconomic and environmental determinants to effectively tackle oral health disparities. The review calls for a concerted effort from policymakers, healthcare providers, and communities to develop inclusive, equitable strategies for sustainable health improvements across all societal segments.

Keywords: Socioeconomic, oral health, disparities, oral diseases, interventions, prevention, income

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INTRODUCTION

The FDI World Dental Federation, a pioneer among global dental organizations, introduced a comprehensive definition of oral health. This definition highlights oral health as an intricate concept, encompassing the capacity for various activities such as speaking, smiling, sensing (smell, taste, touch), eating (chewing, swallowing), and expressing emotions facially without experiencing pain, discomfort, or diseases related to the craniofacial area. The Federation identifies key factors influencing oral health that contribute to overall wellness, which include physiological and psychosocial functioning, along with the status of diseases and conditions (1). Furthermore, the FDI emphasizes the importance of certain determinants in oral health. Within the framework of what is termed driving determinants, it especially focuses on two domains for this special issue: the social and physical environments. It elaborates on how both health behaviors and accessibility to healthcare services are significantly influenced by the social context (2-5), underscoring the multifaceted nature of oral health determinants and their impact on individuals' health and well-being.

Substantial research has illuminated the connection between social factors and various oral health outcomes, including conditions ranging from cavities to gum diseases (6-10), patterns of dental service use (11), and oral hygiene behaviors (12, 13). Contrastingly, the investigation into the impact of the physical environment, such as climate change and water scarcity, on oral health is not as developed.

According to a theoretical framework, Oral health-related quality of life (OHRQoL) is affected by a blend of biological, personal, and environmental factors, with socioeconomic status (SES) being a significant influencer. SES, a composite measure that includes income, education, occupation, power, and prestige, has varied health implications across different demographics. Despite the diverse interpretations of SES components across countries, social gradients consistently shape health inequalities (14). Individuals with lower SES often face poorer oral health outcomes, including reduced OHRQoL, illustrating the profound effect of socioeconomic factors on oral health and its consequent impact on quality of life (15).

Health disparities are defined as differences in health status that originate from social causes, are preventable, and are deemed unjust. Socioeconomic disparities, influenced by factors such as sociopolitical context, income, and education, create a social health gradient within society, where those at a socio-economic disadvantage suffer from poorer general and oral health outcomes (14). Theoretical perspectives suggest that lower SES leads to inadequate material resources, like housing and food, and limited access to healthcare services, resulting in higher disease prevalence (14, 16, 17). Additionally, in unequal societies, the subjective assessment of one's socioeconomic status can lead to psychosocial stress and anxiety, which worsens the impairment of coping mechanisms in people with lower SES than in those with higher SES (15).

METHODOLOGY

This study is based on a comprehensive literature search conducted on February 27, 2023, in the Medline and Cochrane databases, utilizing the medical topic headings (MeSH) and a combination of all available related terms, according to the database. To prevent missing any possible research, a manual search for publications was conducted through Google Scholar, using the reference lists of the previously listed papers as a starting point. We looked for valuable information in papers that discussed the impact of socioeconomic factors on oral health. There were no restrictions on date, language, participant age, or type of publication.

DISCUSSION

Oral health's socioeconomic factors

Oral Conditions

The study of social determinants of oral health highlights the significant role of various factors in the prevalence and impact of oral diseases. Dental caries, as the most common oral condition, had a global prevalence of untreated cases in permanent teeth reaching 34.1% in 2015, significantly affecting disability-adjusted life years (8). The development of dental caries is influenced by a combination of biological, behavioral, and social factors, with poverty emerging as a critical factor. Research indicates that individuals from lower socioeconomic backgrounds, characterized by lower levels of education, income, or occupation, are more likely to experience dental caries across different age groups (6, 7). An analysis of seven longitudinal studies suggested that a lower socioeconomic status throughout life is associated with a higher risk of developing periodontitis in adulthood (18, 19). Research conducted in London and among Indian adults found that periodontal disease correlates with social characteristics, particularly ethnicity and education (4, 5). The impact of migration on oral health, influenced by psychological and social factors, underscores the need for further exploration through both quantitative and qualitative research (20), emphasizing the complex interplay of social determinants in oral health outcomes.

Head and neck cancer stands as a globally prevalent malignancy, with estimates pointing to approximately half a million new cases annually (21-23). Research has established a correlation between lower socioeconomic factors such as income, education, and general socio-economic standing and an increased risk of oral cancer, alongside the challenges faced by ethnic minorities and uninsured individuals in accessing timely diagnosis and treatment (24). Those affected by orofacial malignancies experience a notable decline in their OHRQoL, affecting their daily functioning and well-being. This underscores the urgent need for more epidemiological research to delve into the social determinants influencing these conditions.

Traumatic dental injuries (TDI) present another significant public health concern, affecting over a billion people globally due to their high prevalence and the potential impact on aesthetics, quality of life, and psychosocial well-being. The prevalence rates of TDI are reported to be 24.2% in primary teeth and 15.2% in permanent teeth (25, 26). A recent systematic review has identified certain sociodemographic factors such as, younger age, male gender, and lower income, as predictors of increased TDI risk. However, the relationship between TDI and the educational level of caregivers remains uncertain (9). This gap in understanding highlights the necessity for further primary research to comprehensively evaluate how social inequalities influence the occurrence of TDI, emphasizing the complex interconnections between socioeconomic status and oral health outcomes.

Temporomandibular disorders (TMD), recognized as the primary source of non-dental orofacial pain globally, considerably diminish individuals' quality of life (27). The occurrence of TMD varies widely among different age groups, with reported prevalence rates ranging from 7.3% to 30.4% among children and adolescents (28) and reaching up to 31% in adults and the elderly (29). The determination of TMD's actual prevalence remains a subject of debate, largely due to the diversity in diagnostic approaches (27).

The influence of other sociodemographic factors, such as ethnicity and socioeconomic status, on the prevalence of TMD continues to be a topic of debate (22). A deeper understanding of the social determinants affecting oral health conditions like TMD could significantly aid healthcare providers in making informed decisions, assist policymakers in developing effective preventive programs, and ultimately contribute to reducing oral health disparities (27).

Oral-health-related behaviors

Despite advancements in preventative measures, oral diseases continue to pose a significant challenge to public health (12, 30), with factors like oral hygiene practices, tobacco usage, diet, and stress playing a crucial role. A study emphasizes the importance of psychosocial factors, including self-efficacy, intention, social influences, coping planning, and action planning, in shaping oral hygiene behaviors (13). This study sheds light on how positive health behaviors are significantly swayed by psychological and social elements.

A key concept in understanding these behaviors is the sense of coherence (SOC), which reflects an individual's capacity to effectively manage stress, understand and make sense of the world, and maintain overall health. SOC has been identified as a critical psychosocial determinant influencing health behaviors, impacting aspects such as hygiene practices, dietary habits, and alcohol consumption (27). Moreover, the influence of SOC extends to the family context, where a mother's SOC can affect the preventive oral health practices of her children (27). Adopting healthy practices, including daily toothbrushing, consistent fluoride exposure, and moderate sugar intake, is crucial for preventing major oral diseases and reducing healthcare costs (13). Educational initiatives that encourage good oral health practices, including daily toothbrushing, fluoride use, and sugar control, are effective in preventing oral diseases and in curbing healthcare and societal costs. These findings point to the necessity of developing programs that target oral health and behavioral improvements across various age groups. The literature suggests expanding research to include additional factors impacting oral health behaviors. Future intervention studies are advised to explore a broader array of psychological factors, such as self-determination, anticipated regret, action control, and self-identity, which have not been thoroughly examined yet. This approach aims at a more comprehensive understanding and influence of oral health-related behaviors, thereby contributing to the prevention of oral diseases and the enhancement of public health outcomes (27).

Dental services utilization

Access to and utilization of dental services is a crucial aspect of public health that varies significantly across different population groups. Globally, ethnic minorities, immigrants, and individuals from lower socioeconomic backgrounds demonstrate lower utilization of dental services. A distinct correlation exists between higher income levels and increased utilization of dental services, particularly among children. For adults, educational attainment has

been identified as a key factor in enhancing access to dental services, with 50% of observational studies included in a systematic review acknowledging this trend (31).

In the older population segments, individuals with higher income and socioeconomic status are more likely to engage in annual dental visits compared to their lower-income counterparts. Systematic reviews have highlighted that the regular or preventive use of dental services significantly varies worldwide, being more prevalent in countries with higher Human Development Index (HDI) scores. The distribution of service utilization is markedly uneven across different societal groups within nations. Factors such as less supportive family structures, low health literacy, poor general and oral health conditions, severe tooth loss, and the age of the individuals, especially younger children, are associated with lower dental service utilization. Over time, neither the overall utilization rates nor the disparities among different groups have shown significant changes (11).

The burden of oral diseases disproportionately affects socially vulnerable populations, yet access to dental services is predominantly better for those in higher socioeconomic positions (31). Dental insurance plays a pivotal role in this dynamic, establishing a positive association with the frequency of dental visits. Individuals with dental insurance tend to have more regular access to dental care compared to those without, further exacerbating the gap between affluent and impoverished communities (27).

In Brazil, studies within this special issue have shown that organizational and human resources factors significantly influence access to dental prostheses. Public dental facilities that benefit from better organizational support and enhanced work incentives are more likely to provide dental prostheses to their patients. This underscores the importance of addressing inequalities in primary oral healthcare access, with policymakers being urged to focus on reducing these disparities (2). The emphasis on improving access to dental services is not only about promoting oral health but also about addressing broader issues of social inequality and ensuring equitable healthcare for all segments of the population.

The exploration of determinants of oral health and the critical need to address inequalities to enhance overall health outcomes, including oral conditions, are underscored in recent research. A systematic review focused on evaluating intervention programs aimed at reducing the prevalence of dental caries among children (32). This review analyzed the effectiveness of various health promotion and preventive initiatives, such as the application of topical fluorides and water fluoridation. These broader population interventions, particularly water fluoridation, have been identified as more likely to decrease inequalities in dental caries among children across different socioeconomic groups compared to targeted interventions. In the Special Issue, a trial was mentioned that investigated the effects of an integrated oral healthcare intervention for pregnant women on health outcomes. This trial illustrated that, despite the influence of socioeconomic and behavioral health determinants, multi-professional health actions during prenatal care could lead to better pregnancy outcomes and improved oral health (3). This suggests that integrated health interventions can play a significant role in reducing health disparities, even amid diverse socioeconomic and behavioral health determinants.

The disparities in oral health and dental service utilization reflect not only issues related to health policy and service availability but also the wider individual, social, cultural, and economic determinants. To effectively tackle these inequalities, it is essential to develop and implement interventions that target not only individual behaviors but also aim to change community and structural factors contributing to these disparities. This approach necessitates a deep understanding of the complex nature of health inequalities and a collaborative effort from policymakers, healthcare providers, and communities. Such strategies should aim to be inclusive, equitable, and capable of fostering sustainable health improvements across all societal segments (27).

Recommendations

To mitigate socioeconomic disparities in oral health, it is crucial to enhance access to affordable dental care through policy reforms that expand insurance coverage for low-income groups. Public health interventions, like community water fluoridation and school-based dental programs, should be intensified to prevent oral diseases in underserved communities. Oral health education must be integrated into school curriculums and community initiatives, emphasizing the significance of maintaining oral hygiene and regular dental visits. Additionally, efforts to increase the dental workforce in disadvantaged areas through incentives like loan repayment schemes are essential. Promoting collaboration between dental professionals and other healthcare providers can integrate oral health into overall healthcare, acknowledging their interrelationship. Investment in research to understand the root causes of oral health disparities and advocating for

policies that address wider socioeconomic factors, including housing, education, and income inequality, are fundamental steps towards creating a more equitable healthcare system.

CONCLUSION

Addressing socioeconomic disparities in oral health requires comprehensive strategies focusing on access to care, educational interventions, and preventive measures. Equitable solutions should prioritize vulnerable populations to bridge health gaps, emphasizing the importance of integrating oral health into broader health and social equity frameworks to achieve lasting improvements.

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