

ORAL HEALTH STATUS, AND ORAL HEALTH CARE UTILIZATION IN SAUDI ARABIA

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Abstract

Oral health is an essential component of overall physical health and a critical indicator of quality of life. According to the World Health Organization, true health includes complete physical, mental and social well-being, which cannot be achieved without addressing oral health. Unfortunately, oral health is often overlooked by health policymakers, highlighting the need for better integration between medicine and dentistry. This study provides an overview of the current state of oral health in Saudi Arabia, where the incidence of oral diseases remains alarmingly high compared to both developed and developing countries, despite rapid socio-economic development. Common oral diseases such as dental caries, periodontal disease and oral cancer significantly impact the health and well-being of individuals. The study emphasizes the importance of preventive measures and early intervention, as many oral diseases are largely preventable. Finally, future plans are outlined to promote oral health and disease prevention in Saudi Arabia, with the aim of bridging existing gaps in access to oral health services.

Keywords: Oral Health, Dentistry, Oral Health-Related Quality of Life, Oral Diseases, Saudi Arabia.

Introduction

Oral health is a very important indicator of overall health and well-being. It includes a variety of conditions and diseases that affect the structures of the mouth and teeth, including dental caries, periodontal disease, oral cancers, various types of traumas, genetic/developmental diseases, and many other diseases and conditions [1].

The World Health Organization (WHO) has defined health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” [2]. Recent developments in the definition of health and the measurement of health status have had little impact on dentistry. According to the World Dental Federation (FDI), oral health is “multifaceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow, and convey a range of emotions through facial expressions with confidence and without pain, discomfort or disease of the craniofacial complex” [3,4].

Oral diseases constitute a major burden on the global public health community and negatively impact quality of life [5]. Therefore, oral health should be considered a fundamental component of public health. Oral diseases also cause a significant economic burden on the healthcare system [5,6]. The healthcare system in Saudi Arabia was formed by royal decree in 2002. The aim was to ensure that healthcare is provided to all the population of the Kingdom in an affordable, equitable and organized manner [7]. In Saudi Arabia, there are 13 health regions, and the Ministry of Health (MOH) is the main provider of healthcare, providing more than 60% of all health services. The remainder is provided by non-governmental and other governmental sectors. Each region has its own independent dental center that receives referrals from other clinics associated with the various hospitals and health centers in each region [8]. Saudi Arabia has put in place various policies and programs such as Vision 2030 and the National Transformation Plan to promote public health, including reducing the prevalence and severity of oral diseases. From a global perspective, much remains to be done, positive action must be accelerated, and innovative solutions must be evaluated and implemented at scale for the vision of universal health coverage for oral health to become a realistic goal. This includes a renewed focus on integrating oral health care with primary health care and integrating prevention and oral health promotion in settings outside specialized oral health facilities [9].

This study focuses on the past and current status of oral health in Saudi Arabia, discussing the oral diseases and conditions prevalent in the country, the strategies that have been implemented to address them, and the future of oral health promotion and disease prevention in Saudi Arabia.

Impact of oral health on people’s quality of life

Oral health varies across the life cycle from early life to old age, is an integral part of overall health and supports individuals in participating in society and realizing their potential. Oral diseases are a major public health problem for countries and populations worldwide, although they are often not publicly recognized as such [10].

The estimated total number of oral diseases worldwide is approximately one billion, higher than the five major non-communicable diseases (mental disorders, cardiovascular disease, diabetes, chronic respiratory disease and cancers) combined [10,11].

Oral diseases are a concept that includes everything from temporary and permanent tooth decay, periodontal disease and edema to oral cancer, all of which are now recognized as public health problems for countries and populations worldwide [12]. Apart from the five major diseases (dental caries of primary and permanent teeth, severe periodontal disease, edema, and cancer of the lip and oral cavity), many other diseases and conditions are relevant to oral health [10, 13].

Quality of life in a population is one of the generally accepted and important indicators that determine the real opportunities people need to live a comfortable life. From the point of view of dental health, four types of factors have been identified that are directly related to the quality of life of patients: diseases of the mandibular system, the condition of the mandibular system, the influence of the condition of the mandibular system, and the condition of the mandibular system [14]. The conditions in which people are born, grow, live, work, and age [10] are the framework that, together with genetic, social, cultural, and environmental factors, influences the development of oral diseases.

Common Dental and Oral Diseases in Saudi Arabia

Dental Caries

Dental Caries are a cumulative condition, and its prevalence tends to increase with age. According to the World Health Organization, dental caries is among the most common oral diseases. Worldwide, an estimated 2.5 billion people suffer from dental caries in their permanent or primary teeth, underscoring the importance of understanding its prevalence in specific regions, including Saudi Arabia [15]. The prevalence of dental caries in the Middle East affects both children and adults. More recently, dental caries has become a problem due to lifestyle changes in the population. Furthermore, insufficiently fluoridated water, high-sugar diets, and poor oral hygiene contribute to the development of dental caries in early childhood, increasing an individual's susceptibility to developing dental caries in their permanent teeth [16]. Recent studies in Saudi Arabia have shown that the prevalence of dental caries averages 86% in primary teeth and 65% in permanent teeth [17]. Policymakers in Saudi Arabia are working to improve the oral health status of their population. The prevalence of dental Caries in children is on the rise. This factor may hinder the WHO and FDI goals for caries control. All studies indicate that the prevalence of dental caries in Saudi Arabia is very high and is estimated at 80%. Many factors, such as income and parental education level that affect the socio-economic status of the population, have been associated with dental caries and should be modified with other factors to reduce the severity of dental caries [17,18]. Factors related to feeding practices or children's toothbrushing habits are much easier to modify than socio-economic status. It is very important to modify these factors through certain practices and good behaviors such as regular tooth brushing, rinsing the mouth with water after meals and using dental floss.

Periodontal Disease

Periodontal disease is a chronic, destructive inflammatory disease of the tissues that support the teeth, caused by a complex interaction between harmful microorganisms in the mouth and the body's immune response [19]. Gingivitis, a reversible condition with improved oral hygiene, can progress to periodontitis – a chronic, irreversible inflammatory disease that causes tissue separation and bone loss and can lead to tooth loss if left untreated. Lifestyle factors such as smoking, poor oral hygiene, obesity, and diets low in calcium and vitamin D are risk factors for gum disease, which can be mitigated with proper care. Genetics also play a role in susceptibility [20]. Early detection of risk factors is crucial for prevention and treatment, as Periodontal disease is associated with systemic conditions such as diabetes, pregnancy complications, chronic obstructive pulmonary disease, heart disease, arthritis, and osteoporosis. An estimated 20–50% of people worldwide suffer from Periodontal disease [21]. According to the Global Burden of Disease (GBD) study, severe chronic periodontitis affected 538 million people between 1990 and 2015. Over the past few decades, there has been a significant increase in the prevalence of periodontal disease [22]. In Saudi Arabia, the prevalence of periodontal disease varies due to different study designs and populations. In 2018, a study was conducted among high school children to investigate the prevalence of periodontitis. It was found that 8.6% of students had periodontitis, and only 34.5% had healthy periodontium, which according to the new definition is equivalent to stage I periodontitis according to the 2017 periodontal disease classification [23]. Periodontitis was found to be higher in populations with specific risk factors. Smoking and diabetes are the most important risk factors for periodontal disease. Unfortunately, the high prevalence of smoking in Saudi Arabia poses a significant risk to periodontal tissues [24], however, the dentist has a role in counseling for smoking cessation. These two risk factors may influence the prevalence and severity of periodontitis in Saudi Arabia. A comprehensive assessment of periodontal health in Saudi Arabia is still lacking, possibly due to the absence of a unified national surveillance system for the prevalence and severity of periodontal disease.

Oral Health Knowledge and Practice in Saudi Arabia

Oral health knowledge and practices in Saudi Arabia are a complex landscape shaped by cultural, educational and social factors. Oral health practices and perceptions are influenced by various factors, with parents being among the most important. Children are influenced by peers, friends and teachers, while health professionals play a crucial role in educating and correcting misconceptions [25]. In addition, the Internet and social media have significantly impacted access to health information. Good oral health knowledge is important for achieving good oral health habits, and a link between improved knowledge and better oral health has been shown [26]. Therefore, WHO is promoting oral health through schools to improve understanding, behaviors and practices related to oral health to prevent and control dental diseases among school children. Several studies have shown that there are multiple sources of information about oral health, such as parents, teachers, dentists and the media, which have a direct impact on school children's

awareness of oral health [27]. School-based health education is successful in promoting awareness and modifying and changing health-related attitudes and behaviors [28]. Students are also an ideal group for early intervention because healthy habits and lifestyles developed at a younger age are more sustainable.

Fundamental role of the dentist in oral health

The role of dentists in Saudi Arabia is fundamental to ensuring optimal oral health and overall quality of life for patients. Professional oral and dental supervision are crucial, as it directly impacts essential functions like eating, speaking, and social interactions [29]. Dentists lead the oral health team, taking responsibility for diagnosis, treatment planning, and maintaining the quality of dental care [30].

In Saudi clinics, a comprehensive clinical examination begins as soon as a patient enters. This assessment includes vital signs—such as consciousness, pulse, blood pressure, and respiration—along with a general examination that looks at weight, hand condition, skin lesions, and other signs. A thorough extraoral head and neck examination is performed to assess swellings, pallor, rashes, and the condition of lymph nodes, salivary and thyroid glands, and temporomandibular joints (TMJ) [31]. Finally, intraoral examinations focus on dental, periodontal, and mucosal health. Through these thorough evaluations, dentists in Saudi Arabia play a vital role in disease prevention and the promotion of better oral health outcomes in the community.

Oral Health Challenges and Solutions in Saudi Arabia

Several factors influence oral health status, and many serve as obstacles to improvement, including a general lack of emphasis on oral health in countries like Saudi Arabia. With a population of around 30 million, Saudi Arabia has a relatively low dentist-to-population ratio, with only about 5 dentists per 10,000 people as of 2017 [32]. This is significantly lower than countries like the USA and Canada.

Preventable dental diseases are a major concern, highlighting the need for effective prevention strategies. School oral health promotion programs and national epidemiological studies are essential to address these challenges. The Saudi government is actively working on tobacco control through awareness programs, social media campaigns, and specialized clinics, which include free smoking cessation services [33]. Additionally, the use of the internet and social media for health promotion is crucial. Encouraging dental professionals to establish a presence online can provide reliable information and counteract misinformation [34]. As part of Vision 2030, Saudi Arabia aims to reform its health system, prioritize medical training, and foster partnerships with international institutions to enhance dental care services across the country. However, a strategic plan is needed to address oral health issues effectively, given the current data limitations.

Conclusions

Oral health is an integral part of overall health and quality of life, yet it often remains underappreciated in healthcare policies, especially in Saudi Arabia. The high prevalence of oral diseases, despite the country's socioeconomic progress, underscores the urgent need for a comprehensive approach to oral health promotion. Integrating dentistry with general healthcare can significantly reduce disparities in access to services and improve health outcomes. Preventive measures and early interventions are crucial, as many oral diseases are largely manageable and preventable. The role of dentists extends beyond treatment; they are vital in educating communities about the importance of oral hygiene and its impact on overall well-being. As Saudi Arabia moves towards the ambitious health goals outlined in Vision 2030, strategic initiatives aimed at strengthening oral health services, raising awareness, and promoting preventive practices are essential. By prioritizing oral health, the country can not only improve the lives of individuals, but also contribute to a healthier society as a whole.

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