

An Assessment of Oral Health Knowledge, Practices, and Susceptibility to Oral Diseases Among Students

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Abstract: *Oral health is a vital component of general health, especially among students whose daily habits can significantly influence long - term well - being. This study aims to assess students' knowledge, practices, and awareness of oral hygiene and their susceptibility to oral diseases. A cross - sectional survey was conducted among school and college students aged 10–22 using structured questionnaires covering oral health knowledge, daily practices, diet, and history of dental problems. The results indicate a moderate level of oral health awareness among students, yet a significant gap exists between knowledge and practice. Poor brushing techniques, infrequent dental visits, and high consumption of sugary foods contribute to their vulnerability to dental caries, gingivitis, and other oral diseases. Moreover, socio - economic status and parental education levels showed a strong correlation with oral hygiene practices. The study highlights the urgent need for targeted oral health education programs in schools and colleges. By improving awareness and promoting healthy practices early in life, it is possible to reduce the burden of oral diseases and improve students' quality of life.*

Keywords: Health, Student's, Oral Disease

1. Introduction

Oral disease is a "hidden" epidemic in the US, according to the Surgeon General's Report on Oral Health from 2000 (U. S. Department of Health and Human Services [USDHHS], 2000). The 2000 press release and interview with Surgeon from Craniofacial Research (NIDCR), General David Satcher, the United States is home to a variety of populations, including those members of racial and ethnic groups living below the poverty line, particularly youngsters and the elderly communities, as well as those who suffer from significant health issues or impairments suffer from certain oral illnesses as a result of ignorance. Poor oral health issues can lead to difficulties speaking, swallowing, eating, sleeping, and breathing.

Actually, poor dental hygiene habits can lead to serious health problems issues in later life, including diabetes, bacterial pneumonia, heart attacks, strokes, and lung illness.

The NIDCR (2000) report and other sources also support the prevalence of oral health diseases ascribed to the dearth of dental care in some regions, in addition to the lack of attempts to inform the public on the need of maintaining proper oral hygiene practices for long - term well - being (Allukian, 2000). This silent epidemic is made worse by the dearth of dental coverage for around 125 million individuals (Allukian, 2000).

Oral Health

Oral health includes not only the mouth, but also the gums, supporting connective tissue, ligaments and bone, the hard and soft palate, lips, chewing muscles, and upper and lower jaws. In 1948 the World Health Organization expanded the definition of oral health to include the overall well - being of an individual (USDHHS, 2000). The report indicated that oral health must also include the well - being of a person beyond the health of their mouth and related systems, to include their social well - being and psychological health.

This means the mental and social being of an individual's oral health such as how they feel about their teeth because the functionality of their teeth goes hand - in - hand with the overall body. The oral cavity begins between the skin and the lips which is known as the vermilion border. It then leads to the roof of the mouth formed by the hard palate. The oral cavity then leads into the oropharynx which includes the soft palate, tonsils, and tongue. The buccal mucosa is the mucous lining of the inner cheek. The vestibule is the space bounded by the cheeks and lips and the facial surfaces of the teeth and gingivae. The labial commissure is the junction of the upper and lower lips in the corner of the mouth. These systems handle many responsibilities for our bodies, including eating, breathing, and speaking. Such a complex organ system can be severely damaged by bad oral hygiene practices, which makes it worthwhile to investigate ways to minimize the greater risk of contracting oral disease.

Common Oral Diseases

Oral disease is the result of genetic and environmental factors. In this section, three common oral diseases (dental caries, periodontal disease, and oral cancer) are discussed in terms of their symptoms, risk factors, and interactions with other illnesses.

Dental caries

Dental caries are a common form of oral disease. Langha (2004) described caries as a disease of behavior due to the fact that they are largely preventable with effective oral hygiene practices. Dental caries occur when teeth are demineralized by acids created as oral bacteria break down dietary carbohydrates (e. g., sugars, breads, and starches), and the surface of the tooth is degraded or begins to break down. Erosion can be predicted by the titratable acidity and pH balance of the beverages consumed by individuals. Demineralization occurs with the consumption of certain foods or beverages or when the pH level drops below 5.5. During demineralization, the hydrogen ions react with apatite crystals and break down the phosphate and calcium

ions. This process can also create white spots on the teeth. When properly treated, it may be possible to reverse the damage of erosion and dental caries. Remineralization naturally occurs in the body's repair process in the oral cavity that helps repair the process for noncavitated lesions. It is a process that occurs when calcium and phosphate ions are found in the saliva and assisted by fluoride to rebuild new surface on the existing crystal remnants in the subsurface of the tooth. Not only can dental caries be dangerous for our teeth, but there has been a link to demineralization of the tooth.

Periodontal disease

Gingivitis is the mildest form of periodontal disease and is reversible with intervention, but when untreated leads to chronic gingivitis or periodontitis. Chronic gingivitis is the inflammation of the gums surrounding the teeth. In chronic gingivitis, the gums become weak and pockets form around the teeth which leave the plaque and tartar to build up in the pockets. Additionally, chronic gingivitis may lead to tooth loss. Chronic gingivitis can also manifest as discolored teeth and tender gums with red blotches on the gums. Periodontitis can be a serious disease. It can involve the gingiva, periodontal ligaments, and the alveolar bone. The periodontal pockets can be destroyed by plaque, debris from food, and calculus. If not treated properly, the periodontal ligament will be destroyed leaving the teeth to move freely and will lead to tooth loss. Periodontitis can lead to damage in underlying supportive tissue and bone and create serious health problems. Periodontitis can be accelerated by systemic illnesses and other external variables (e. g., diabetes, HIV/AIDS, osteoporosis, stress, and poor nutrition).

2. Methodology

This study employed a cross - sectional survey design to evaluate the oral health knowledge, daily hygiene practices, and susceptibility to oral diseases among students.

1) Study Population

The target population included students aged 10 to 22 years, selected from schools and colleges across urban and semi - urban areas. The participants were chosen using a stratified random sampling technique to ensure diverse representation across age groups, gender, and educational backgrounds.

2) Sample Size

A total of 300 students participated in the study. The sample size was determined based on preliminary population data and desired confidence levels for statistical analysis.

3) Data Collection Tool

A structured questionnaire was developed, consisting of four sections:

- Demographic information (age, gender, socio - economic status)
- Oral health knowledge (awareness of brushing frequency, role of fluoride, causes of cavities, etc.)
- Oral health practices (brushing technique, frequency, flossing, dental visits, dietary habits)
- Self - reported oral health problems (pain, bleeding gums, sensitivity, bad breath)

The questionnaire was reviewed by dental health professionals and piloted on a smaller group before final distribution.

4) Data Collection Procedure

The survey was administered in - person and online (Google Forms) under the supervision of school/college authorities to ensure authenticity. Participation was voluntary and anonymous.

5) Data Analysis

The collected data were coded and analyzed using SPSS (Statistical Package for Social Sciences). Statistical methods used included:

- Descriptive statistics (percentages, means, standard deviation)
- Chi - square tests for assessing associations between knowledge/practice and susceptibility to disease.
- Correlation analysis to explore relationships between variables such as socio - economic status and oral health behavior.

6) Ethical Considerations

- Informed consent was obtained from all participants (and guardians for minors).
- Ethical approval was taken from the institutional review board.
- Data confidentiality and participant anonymity were strictly maintained.

3. Importance Features

The study on "*Student's Oral Health Knowledge, Practices, and Their Susceptibility to Oral Health Diseases*" is significant due to its comprehensive approach to understanding a critical yet often overlooked aspect of adolescent health. The key features include:

1) Holistic Assessment

The study evaluates not only the knowledge about oral hygiene but also daily practices and actual susceptibility to dental diseases. This three - dimensional approach provides a more complete understanding of student oral health behavior.

2) Age - Specific Focus

By targeting students aged 10 to 22 years, the study captures data across both school - aged children and young adults, allowing for comparisons across developmental stages and education levels.

3) Behavior and Disease Linkage

The research links oral hygiene behaviors (such as brushing frequency, flossing, and diet) directly with self - reported oral health issues, helping identify risk factors for early intervention.

4) Socio - Economic and Demographic Analysis

It considers the impact of socio - economic status, parental education, and access to dental care, highlighting health disparities and targeting areas for public health improvement.

5) Practical and Actionable Outcomes

Findings are designed to be translated into educational strategies, such as school - based oral health programs, awareness campaigns, and parental engagement initiatives.

6) Data - Driven Insights

The use of quantitative data analysis ensures objectivity, while tools like SPSS and statistical correlation give credibility and scientific strength to the findings.

7) Ethical and Inclusive Approach

The study adheres to ethical research standards, ensuring voluntary participation, informed consent, and confidentiality, making it a responsible model for future health surveys.

4. Conclusion

The study on students' oral health knowledge, practices, and their susceptibility to oral health diseases reveals a concerning gap between awareness and implementation of proper oral hygiene behaviors. While a majority of students demonstrate basic knowledge regarding oral health, including the importance of brushing twice daily and avoiding sugary foods, many fail to translate this knowledge into consistent practice. The irregular use of dental care services, poor brushing techniques, lack of flossing, and unhealthy dietary habits significantly increase their vulnerability to common oral diseases such as dental caries, gingivitis, and bad breath.

Moreover, socio - economic background, educational environment, and parental influence were found to have a significant impact on students' oral health behavior. Students from higher socio - economic groups with better access to dental care and parental guidance tend to follow healthier oral hygiene routines.

This research underscores the need for integrated oral health education programs within school and college curricula. Educational institutions, in collaboration with public health authorities, should actively engage in spreading awareness, conducting regular dental camps, and promoting preventive care measures. By fostering healthy oral habits at an early age, the long - term burden of oral diseases can be significantly reduced, leading to improved general health and quality of life among students. Therefore, a proactive approach toward oral health education and behavior reinforcement is essential for a healthier future generation.

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