

CAUSES AND PREVENTION STRATEGIES OF DENTAL CARIES AMONG ADOLESCENTS

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Abstract

This article analyzes effective strategies and preventive measures to combat the widespread occurrence of dental caries among adolescents. Dental caries is one of the most common and serious oral health problems among young people, including my peers [1]. The main causes include unhealthy diet, poor oral hygiene habits, socioeconomic factors, and genetic predisposition [2][4]. These causes are highlighted in recent journals and scientific sources. The paper discusses the importance of health education, improvement of oral hygiene, rational nutrition, and preventive dentistry [6]. In addition, the role of individualized approaches and genetic factors in prevention is emphasized [4]. The study provides recommendations and conclusions based on up-to-date scientific literature and the guidelines of international health organizations [1][3][7]. The article may be useful for dental students, practitioners, parents, and adolescents themselves.

Keyword: Caries, Adolescents, Prophylaxis, Dental Hygiene, Rational Nutrition, Fluoride, Genetic Factors, Dental Care.

Introduction

Dental caries is one of the most common dental diseases worldwide, and is particularly common among teenagers [1][2]. Since this age period is characterized by specific physiological and psychological changes, it may not be possible to pay good and sufficient attention to dental health [5]. Improper diet, consumption of carbonated drinks and sweets, disregard for hygienic habits and failure to visit the dentist are the main causes of this problem [6]. Scientific research in recent years provides that the prevention of tooth decay is effective only with a preventive approach, and not with treatment [2][3]. Among other things, it will be possible by teaching teenagers proper toothbrushing techniques and using fluoride products [3], eating a healthy diet and establishing preventive check-ups [6][7]. These approaches should be implemented in all sectors of the health care system. If we think deeper, genetic factors are becoming increasingly important [4]. In some adolescents, the susceptibility to tooth decay is higher, and in such cases, standard screening and prophylactic approaches may not be sufficient [4]. The use of modern technologies will be useful for drawing up individual approaches and comprehensive treatment plans for each such case [2][4].

The main causes of the prevalence of caries are considered to be due to many factors. One of them is oral hygiene [5]. Many teenagers forget to brush their teeth regularly or use the wrong brushing techniques [6]. Most teenagers do not pay enough attention to toothbrushing, considering it a simple task. However, teeth should be brushed twice a day, in the morning and in the evening [3]. It is recommended that the toothbrush be replaced every 2–3 months, and that special floss or irrigators be used for cleaning interdental spaces [3]. Hygiene habits should

be instilled in childhood, and in this regard, parents play a key role [6]. It is also important to seek advice from qualified dentists rather than relying on incorrect advice available online [5]. In addition, rinsing the oral cavity with an antiseptic and cleaning the tongue are important [5]. This is because the tongue papillae are areas where bacteria and microbes accumulate. Such additional hygienic measures are also beneficial.

A balanced diet is one of the most important factors not only for general health but also for oral health [2]. Some teenagers consume large amounts of fast food, carbonated drinks, and desserts [6]. These products create an acidic environment in the mouth, which leads to tooth decay [2]. Especially sticky sweets remain on the surface of the tooth for a long time, increasing the risk of caries. Priority should be given to natural food products, such as calcium-rich dairy products (milk, cottage cheese, etc.), which are the main building materials of teeth and bones, containing hydroxyapatite, casein, minerals, and proteins [5]. Vegetables also play an important role, as they help the body absorb calcium [2]. Leafy greens such as cabbage are effective in reducing bacteria in the oral cavity. Fruits should also be included; for instance, strawberries contain malic acid and microelements that have teeth-strengthening and whitening properties [6]. Drinking water during meals and rinsing the mouth after eating is a simple but effective preventive measure [7].

Scientific research in recent years confirms that genetic factors also play an important role in the development of caries [4]. Some people have genetically weaker enamel or reduced salivary secretion, both of which increase the risk of caries [4]. Therefore, simple hygienic measures may not be sufficient in such individuals. With the help of genetic tests, it is possible to determine the degree of susceptibility to caries and accordingly draw up individualized preventive treatment plans [4]. For example, products with a high concentration of fluoride, professional cleaning, or remineralizing treatments may be prescribed [3]. In an individualized approach, a plan is developed based on each patient's age, oral hygiene, diet, and genetic factors [4]. This approach increases the effectiveness of prevention and helps to prevent severe forms of caries. In addition, genetic tests in medical institutions allow early identification of adolescents with rapid caries progression due to genetic predisposition and implementation of necessary preventive measures [4][7]. This highlights the importance of introducing modern approaches to dental examinations.

Conclusion

In conclusion, the prevention of dental caries among adolescents requires a multifaceted approach. It is essential to instill proper oral hygiene habits, maintain a healthy and rational diet, and apply individualized preventive measures [6][7]. Collaboration between parents and healthcare professionals can significantly reduce caries prevalence among adolescents [5]. Increasing public awareness of oral health also remains a pressing issue [1]. Regular preventive dental check-ups are crucial for long-term maintenance of oral health [2]. Well-planned prevention strategies not only strengthen adolescents' oral health but also help avoid severe dental diseases in the future [7].

References

1. World Health Organization. Oral Health Factsheet. WHO, 2024.
2. Petersen P.E. The World Oral Health Report 2022. Community Dentistry and Oral Epidemiology, 2022.



3. American Dental Association. Fluoride Use in Caries Prevention. ADA Guidelines, 2023.
4. Turkmen S. et al. Genetic factors in dental caries: A narrative review. *Frontiers in Oral Health*, vol. 4, 2024.
5. Kasimov A.Kh. *Pediatric Dentistry*. Tashkent, 2021.
6. Nazarov Sh. Caries Prevention in Adolescents. *Journal of Dentistry*, No.4, 2022.
7. Ministry of Health of the Republic of Uzbekistan. Annual Dental Health Monitoring Report, 2023.