Ro J Prev Med 2023, 2:37-40
Published online in www.rjpm.ro

Approaches in oral health promotion

Ruxandra Sfeatcu[1], Mariana Cărămidă[1], Loredana Dumitrașcu[1], Dan Lambescu[1], Mihaela Adina Dumitrache[1]
[1] U.M.F. Carol Davila, Faculty of Dentistry, Oral health and Community dentistry Department, Bucharest

Abstract

According to the World Health Organization (WHO), "oral health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity". Oral health, an important component of general health, involves more than the existence of healthy teeth, it refers to the entire oral cavity and has profound implications for the body. Good oral health allows the realization of the person's social (socialization, communication) and economic functions. Although the oral health status of the population around the world has seen a marked improvement, oral diseases continue to be a major public health problem, especially in communities belonging to disadvantaged social groups in developed and developing countries, which still face increased levels of oral health impairment.

Keywords: oral health, gingivitis, periodontal disease, caries, schoolchildren, oral cancer

Introduction

According to the World Health Organization (WHO), "oral health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity". Health is an essential dimension of the population's quality of life, which includes both the general state of health and the quality of the medical assistance services offered, thus allowing the person to fulfill his role in society. Oral health is an integral part of this balance, so it is especially important to approach it in the same way as general health. Currently, it is considered that "oral health means more than healthy teeth, the focus being more and more important on the psycho-social implications and the quality of life". Oral health, an important component of general health, involves more than the existence of healthy teeth, it refers to the entire oral cavity and has profound implications for the body.

Good oral health allows the realization of the person's social (socialization,communication) and economicfunctions. At the same time, poor oral health plays an important role in triggering other organ or system ailments, with serious consequences for the body in the medium and long term [1].

The promotion of oral health at the individual and community level is a strategy that aims to reduce the incidence and severity of oral diseases and to maintain an optimal quality of life-related to oral health.

Most oral diseases can be prevented and should be important priorities for any society. Oro-dental prevention strategies mainly aim at reducing the level of exposure to major risk factors and promoting a healthy lifestyle, and the promotion and implementation of preventive measures is a wise investment.

Thus, the World Health Organization (WHO) approaches oral health as an integral part of general health, with diseases of the oral cavity having an impact on the state of health as a whole (cardiovascular diseases, diabetes, joint diseases, kidney diseases, sinusitis, etc.), on the well-being and quality of life of individuals, but also on the health systems and on society, through the high associated costs (in the 27 countries in Europe, 79 billion euros are spent annually on dental treatment, which represents 5% of the

total expenses for health). Oral and general health have common risk factors related to diet, incorrect personal hygiene practices, tobacco use, and excessive alcohol consumption. The control of oral cavity diseases through health promotion and preventive actions in primary dental care must focus on addressing common risk factors for oral and general diseases [1-3].

WHO implemented in 2003 a Program for oral health that includes several directions of action, of which we list the relevant ones for primary dental care prevention programs at the national level [2]:

- oral health policies, to effectively control and modify common risk factors, represented by lifestyle (oral hygiene, unhealthy diet, excessive alcohol consumption, smoking) for the following oral conditions: dental diseases, oral cancer, and craniofacial developmental disorders.
- health policies worldwide are currently oriented towards detecting the exposure of individuals to risk factors and their control (diet, alcohol consumption, and smoking, lack of proper hygiene, the presence of stress and accidents), as a more effective approach compared to actions specific to a certain condition. The national programs that take into account the responsibility of the medical staff, the one at the community level, but also the individual responsibility are the most effective in preventing diseases, including oral diseases, with the following directions of action:
- development and implementation of oral disease prevention and health promotion projects focused on disadvantaged population groups both in economically developed and developing countries;
- special emphasis on improving children's oral health;
- reducing existing inequalities regarding the health status of the population in various geographical regions due to differences in economic and educational levels;
- approaching target populations with the greatest risk factor for specific oral diseases;
- increasing the access of patients from disadvantaged groups to primary oral health care systems;
- detection of patterns and trends regarding oral diseases;
- analysis of the determinants of the disease at the level of high-risk population groups.

Diseases of the oral cavity, although largely preventable, are still major public health problems in Europe and throughout the world, namely the following: dental caries, periodontal disease, trauma, and oropharyngeal cancer.

Epidemiology of dental caries

According to the World Health Organization, tooth decay remains an important public health problem in Eastern European countries and disadvantaged groups in all European Union member countries, affecting 60–90% of school children and most adults. In the countries of Western Europe and those on the North American continent, there is a tendency to decrease the prevalence and severity of oral diseases, evident especially in children, due to the improvement of eating habits and oral hygiene behaviors, as a result of educational campaigns, the implementation primary dental care prevention programs in schools. In Central and South-Eastern Europe, as a result of the political and economic changes that have occurred in the last 20 years, the health systems are in transition, and the level of oral health of the population is below that of Western and Northern European countries, especially because of cultural and socio-economic differences [1].

For Romania, in 2003, WHO statistics showed that for 6-year-old children, the percentage of those without caries is very low (33.3%), and the value of caries indices, at the level of temporary teeth, is high (cao-d 4 .5), compared to developed European countries – Norway (1.4), Finland (1.5), Belgium (1.7), France (1.7), Austria (2.1), Spain (2.1), Sweden (2.4), Germany (2.6). At the level of temporary teeth, there is a ratio of 5/1 in favor of the number of untreated caries compared to that of coronal fillings, which shows that the treatment needs of temporary teeth are very high. In the same context, for 12-year-old schoolchildren, in 2000, a cao-d index of 2.7 was reported, which increased to 3.3 by 2007 [2].

Thus, Romania ranks last in the European hierarchy, with higher values reported by Montenegro, Bosnia-Herzegovina, Albania, Croatia, Lithuania, the Republic of Moldova, and Ukraine. The national study conducted in 2013 demonstrated, in children aged 6–11 years, a prevalence of carious lesions on temporary teeth with a rather high value (75.3%), and for permanent teeth – 39%. The same study shows, at the age of 12, a CAO-D index of 1.88, higher than in other European countries (England 0.7 in 2009, Belgium 0.9 in 2010, Switzerland 0.82 in 2009), given that, for 2011, WHO statistics estimate a global value of 1.61 for the 12-year

-old population, and an average value of 1.95 for Europe [2].

Epidemiology of periodontal disease

Regarding gingivitis and periodontal disease, studies show that gum disease begins in early childhood (5–7 years), with incidence and severity increasing towards adolescence. For the adult population, epidemiological studies show that over 50% of the European population suffers from periodontal diseases and 10% of the entire population presents severe forms of it (increased dental mobility, tooth loss), and for the 60-65 year old group, the proportion of affected subjects severe periodontal disease is 70–85% [3]. Periodontal health is declining as a result of increasing life expectancy and the frequency of diabetes. From this perspective, children and parents should be aware of the risk of gingivitis and periodontal disease. In order to prevent periodontal disease, one should visit the dentist periodically, for professional hygiene, for information on the appropriate brushing technique and the use of age-specific hygiene auxiliary products, and also to detect early signs of periodontal disease.

In the context of this pathology, an aspect of major importance is the state of oral hygiene of children in Romania: the national study carried out in 2013 shows that at the age of 12, when the child must have mastered oral hygiene methods, 92% of students present deposits of dental microbial plaque or tartar, and 22.09% of students have signs of periodontal disease (gingival recessions, periodontal pockets, dental mobility, etc.) [4].

Epidemiology of Oral cancer

Oral cancer, one of the few fatal diseases that dentists may encounter, ranks eighth among the most common forms of cancer worldwide (in 2008 there were 132,000 cases of head and neck cancer, resulting in 62,800 deaths, and the number of cases is increasing, especially in women and young adults, especially in Eastern European countries). Risk factors associated with oral cancer are poor oral hygiene, smoking, and alcohol consumption. Statistics show that 64% of teenagers in Romania smoked in the last 12 months (constantly or occasionally) and also 16.2% of students up to the age of 11 lit up a cigarette for the first time, and of these 1 .5% smoke daily.

The World Health Organization (WHO) has constantly monitored the situation of oral diseases, especially in Europe. The results of epidemiological studies show that over the last 20 years, the prevalence of dental caries in children and adolescents in developed countries has decreased, while in some developing countries it has increased, as is the case in Romania [3].

Oral health promotion strategies addressed to oral diseases

According to the WHO, carious lesions can be controlled through concerted actions by communities, professionals, and individuals, in order to reduce the impact of sugar consumption and by emphasizing the beneficial role of fluorides, and in developing countries, by increasing access to specialist assistance. From these perspectives, knowing and studying the determinants of health, the trends in oral health and the determining risk factors of oral diseases, as well as the methodology necessary to implement oral health programs for groups at risk are of real importance for establishing effective methods of improvement of oral health [3]. The implementation of oral health promotion programs, with primary dental care prevention strategies for oral diseases, adapted to each age group and type of oral diseases are recommended: sealing, scaling, application of antimicrobial gels with chlorhexidine, periodic control for detection in early stages of caries, marginal periodontopathy, denal-maxillary anomalies and, in particular, precancerous lesions, awareness and education of population groups at risk regarding the etiology and methods of prevention, primary dental care for the main oral diseases, training on personal oral hygiene techniques and adopting a diet without cariogenic potential, with optimal nutrient content, which favors maintaining the functionality of the oral structures.

Although the oral health status of the population around the world has seen a marked improvement, oral diseases continue to be a major public health problem, especially in communities belonging to disadvantaged social groups in developed and developing countries, which still face increased levels of oral health impairment.

Epidemiological studies in our country draw attention to the low level of oral health in Romanian children. Thus, the PAROGIM study in 2013, conducted on a number of 1595 students, aged between 10-17 years, from public schools in Bucharest, showed that 75% of them were affected by caries in the antecedents, and 64% presented untreated caries at the time of the study. The importance of parents' education level is demonstrated by the fact that 70% of children

whose parents had only finished high school had untreated caries, compared to only 49% of children whose parents were university graduates [4].

Another study carried out by GSK Consumer Healthcare (2013) in schools in 7 cities in the country (Bucharest, Iasi, Constanţa, Timisoara, Cluj, Oradea, Craiova), on a group of 6,786 students between the ages of 5 and 13, found that 40% of children under the age of 13 had caries in permanent teeth, 75% of children had caries in temporary teeth, 75% of their teeth had untreated caries, and 4% were extracted because of caries [5].

Another cross-sectional epidemiological study "Oral health Study in Romania", designed and carried out in 2019–2020, focusing on two age groups (6 and 12 years old), aimed to describe the prevalence of caries and the severity of carious lesions in schoolchildren who live in rural and urban areas in Romania and correlate it with behaviors related to oral health. For the 11-14 age group, the lowest prevalence was in Bucharest (73.76%), followed by Oltenia, Moldova, NW Transylvania, Central Transylvania, Muntenia, and the highest in the west of the country, Banat (92, 5%). The prevalence of caries (dentinal caries index) in Romanian schoolchildren is strongly influenced by their socio-economic environment, as well as by their specific consumption behavior. The level of education of the parents, the cariogenic diet, as well as the residence in the rural-urban environment, influence the prevalence of caries in Romanian schoolchildren [6-8].

References

1. Petersen, P.E.; Baez, R.J.; World Health Organization. Oral Health Surveys: Basic Methods, 5th ed.; WHO Press: Geneva, Switzerland, 2013
2. Petersen PE. World Health Organization global policy for improvement of oral health--World Health Assembly 2007. Int Dent J. 2008 Jun;58(3):115-21. doi: 10.1111/j.1875-595x.2008.tb00185.x. PMID: 18630105.
3. Petersen PE. Global policy for improvement of oral health in the 21st century--implications to oral health research of World Health Assembly 2007, World Health Organization. Community Dent Oral Epidemiol. 2009 Feb;37(1):1-8. doi: 10.1111/j.1600-0528.2008.00448.x. Epub 2008 Nov 12. PMID: 19046331.
4. Funieru C, Twetman S, Funieru E, Dumitrache MA, Sfeatcu IR, Baicus C. Caries experience in schoolchildren in Bucharest, Romania: The PAROGIM study. Journal of Public Health Dentistry 2013;74(2):153-158.
5. Dumitrache MA, Sfeatcu RI, Cărămidă M, Găluşcan A, Răducanu AM, Ionescu E. Oral health profile of schoolchildren included in national programme „Smile Romania" in Bucharest. Medicine in evolution 2015;XXI(2):271-277.
6. Dumitrescu R, Sava-Rosianu R, Jumanca D, Balean O, Damian LR, Fratila AD, Maricutoiu L, Hajdu AI, Focht R, Dumitrache MA, Daguci C, Postolache M, Vernic C, Galuscan A. The Impact of Parental Education on Schoolchildren's Oral Health-A Multicenter Cross-Sectional Study in Romania. Int J Environ Res Public Health. 2022 Sep 5;19(17):11102. doi: 10.3390/ijerph191711102. PMID: 36078817; PMCID: PMC9518154.
7. Sava-Rosianu R, Campus G, Matichescu A, Balean O, Dumitrache MA, Lucaciu PO, Daguci L, Barlean MC, Maricutoiu L, Postolache M, Dumitrescu R, Jumanca D, Galuscan A. Caries Prevalence Associated with Oral Health-Related Behaviors among Romanian Schoolchildren. Int J Environ Res Public Health. 2021 Jun 17;18(12):6515. doi: 10.3390/ijerph18126515. PMID: 34204253; PMCID: PMC8296518.
8. Dumitrescu R, Sava-Rosianu R, Jumanca D, Balean O, Damian LR, Campus GG, Maricutoiu L, Alexa VT, Sfeatcu R, Daguci C, Postolache M, Galuscan A. Dental Caries, Oral Health Behavior, and Living Conditions in 6-8-Year-Old Romanian School Children. Children (Basel). 2022 Jun 16;9(6):903. doi: 10.3390/children9060903. PMID: 35740840; PMCID: PMC9222191.