

Evaluation of dental health. Case study on adolescents



Matichescu A.¹, Balean O.¹, Negru D.², Alexa V.², Jumanca D.¹, Bratu D.C.³, Craciunescu E.L.⁴

¹*Department of Preventive Dentistry, Faculty of Dental Medicine, Victor Babes, University of Medicine and Pharmacy, Translational and Experimental Clinical Research Center in Oral Health (TEXC-OH)*

²*Phd student, Department of Preventive Dentistry, Faculty of Dental Medicine, Victor Babes, University of Medicine and Pharmacy, Translational and Experimental Clinical Research Center in Oral Health (TEXC-OH)*

³*Discipline of Orthodontics, Faculty of Dental Medicine, UMF Victor Babes, Timisoara, Romania*

⁴*Department of Prosthesis Technology and Dental Materials, Faculty of Dental Medicine, "Victor Babes" University of Medicine and Pharmacy Timișoara, Research Center in Dental Medicine Using Conventional and Alternative Technologies*

Correspondence to:

Name: Craciunescu Emanuela Lidia

Address: p-ta Eftimie Murgu nr.2, Timisoara, Romania

Phone: +40 744616009

E-mail address: emanuelapetrescu@yahoo.com

Abstract

Oral health is an integral part of general well-being because the oral cavity is the component of the human body at the level of which the masticatory, phonetic, swallowing, and mimic functions are performed in the absence of discomfort or pain. Also, the oral cavity is a component of the constantly changing human body throughout life, and proper care is needed to maintain its health [3]. Due to the increased prevalence worldwide, the World Health Organization (WHO) monitors the assessment of oral health internationally through standardized studies based on data collected by age group at the level of each country [12]. The purpose of this research is to assess through a questionnaire the oro-dental health of young people aged between 14 and 18 years old. The research undertaken is aimed at finding out the habits of dental hygiene, eating habits and their correlation with dental diseases.

Keywords: questionnaire, oro-dental health, adolescents

INTRODUCTION

Oral health is a fundamental element of overall health and quality of life. This involves not only the absence of tooth decay but also of other conditions such as: periodontal disease, oral cancer and congenital anomalies. In 2017 it was estimated that oral diseases affect 3.5 billion people worldwide, with the use of tobacco, alcohol and the sugar-based unhealthy diet as common risk factors, which have a significant influence on the occurrence of oral diseases [1].

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In 2016, The World Dental Federation (F.D.I) adopted a universal definition, according to which oral health plays a key role in every population and therefore must be unanimously accepted at the level of all policies. In the current context, in addition to the primary functions, it also has other features. In the current context, in addition to the primary functions, it also has other features. Oral health is an important element of the general state of health, being a variable directly proportional to the general state of health. The psychological and social status is influenced by oral health. [4].

The World Health Organization (WHO) has introduced a new definition, according to which oral health is characterized by the absence of odontal and periodontal diseases which may lead to tooth loss, the appearance of discomfort and pain, also involving social and economic factors which play an important role in general well-being [5].

Due to its importance, caring for oro-dental health can prevent the appearance of oral diseases, especially since the level of oral health can influence the health of the whole body, so the oral cavity needs complete care for optimal state of health. Therefore, when discussing the concept of oro-dental health, attention should be focused not only on the oral cavity, but also on the individual and on how oral diseases threaten health and quality of life. Proper oral hygiene has the advantage of avoiding inconveniences that may occur both in the teeth and in the oral mucosa [6].

At present, having a good oro-dental state of health has become, more than ever, a priority.

Although in the past the focus was on dental hygiene to prevent dental diseases, in particular tooth decay, today the use of sanitation means is also considered to contribute to preventing or improving diseases in the soft parts of the oral cavity. Thus, the oral mucosa can be home to the manifestation of general, sometimes serious conditions [6].

Oral diseases, in particular tooth decay, have been a major public health problem over the past two decades. According to the study "Global Burden of Disease", it has been estimated that about 3.5 billion people worldwide suffer from oral diseases and untreated dental caries, being considered a major problem in all areas of public health, with a continuous increase [11].

Due to the increased prevalence worldwide, the World Health Organization (WHO) monitors the assessment of oral health internationally through standardized studies based on data collected by age group at the level of each country [12].

Over the years, these studies have established the main risk factors that influence oral health, being genetic, social or economic factors. Approximately 66% of adolescents in low or medium-economic level countries face serious dental problems as a consequence of unsatisfactory hygiene [13].

The association of dental diseases with the socio-economic factor is a globally accepted issue. It is known that people living in disadvantaged backgrounds with a low standard of

living are more prone to getting ill than people who have the financial resources needed for proper care. Although the economic factor plays a key role in influencing oral health, it cannot be held solely liable for this situation. To bring about significant improvements in population levels, it is necessary to implement appropriate education programs in this regard [14].

In South-Eastern Europe, due to the economic and political changes undergone in the last two decades, the population has limited access to dental services and prevention programs. As a result, the caries index is much higher among adolescents compared to Western and Northern European countries where the standard of living is much higher [12].

In developed European countries such as Norway, Sweden and Denmark, the World Oral Health Report confirms the very low incidence rate due to free dental services, the implementation of modern strategies for minimally invasive treatments and free consultations offered to all underage residents. In these countries, although the quality of dental services offered is high compared to the South-Eastern countries, tooth decay still remains the main risk factor among adolescents [15].

Between 2013 and 2014, in Central Europe, the Institute of German Physicians started studies that showed a decrease in the incidence of tooth decay and tooth loss among adolescents. Also, the German Health Interview and Examination Survey for Children and Adolescents (KiGGS Wave 2), carried out between 2014 and 2017, reported information on the frequency of sanitation and regular check-ups at the dentist. Thus, more than half of the adolescents comply with the indications recommended by specialists. Germany is one of the countries that ranks favourably in terms of oral hygiene at international level, but nevertheless, dental problems remain a concern for specialists [16].

Although there has been an improvement in the prevention and improvement of oral health in recent years, comparative studies carried out at international level between rural and urban environments have revealed a significant difference between the two areas. In the rural area, the accessibility to dental services is much limited, with significant problems regarding the knowledge and practices necessary for a rigorous oral hygiene. The lack of professional care through regular dental visits also shows a negative impact on oral health [17].

In Romania, dental services differ from those offered in the countries of Northern and Western Europe, operating mostly in a private environment such as the Eastern European model. As in other European countries, dental services have improved over time due to the curricula offered by dentists within the institutions. However, greater emphasis is placed on curative treatment than on preventive treatment, which is why the incidence of dental problems among Romanian adolescents is still high [18].

Aim and objectives

The reason for choosing this topic is the desire to know the particular situation of diseases and eating and oral hygiene habits of adolescents. The purpose of this research is to assess through a questionnaire the oro-dental health of young people aged between 14 and 18 years old. The research undertaken aims at finding out the dental hygiene habits practiced, the eating habits as well as their correlation with the dental diseases.

MATERIAL AND METHODS

For the investigation of oro-dental health, the type of research is quantitative. The information was collected by means of a questionnaire. Given the resources and the situation of physical distancing imposed by Covid 19, the use of a questionnaire that was distributed online was the solution opted for.

The questionnaire was carried out to test research assumptions and was distributed online using Google Forms. Types of questions used: Closed and rating scale type. The

questions have been formulated in such a way that they are clear and do not distort the answers. The demographic data collected were appropriate with the information sought for the study undertaken. These are: gender, age and background. Sampling is probabilistic on a voluntary basis. The sample size was set at a minimum of 152 respondents. The population is real, finite and defined.

The objectives of the research have been achieved by collecting information on the frequency of oro-dental diseases in adolescents, on the oral hygiene practices, eating and drinking habits of products known to have a negative impact on oral health.

RESULTS

The people targeted by the research carried out were those aged between 14 and 18 years old. A percentage of 47.4% of the respondents were from the 14-15 years old age group, and a percentage of 52.6% were from the 16-18 years old age group. Of the voluntary sample, 47.4% of respondents are male and 52.6% are female. As in the case of age, the percentage of distribution is relatively balanced. The most recent demographic data collected is the background of young people, which indicates that 40.1% of the respondents are from rural areas and 59.9% from urban areas.

The questionnaire consisted of 17 questions. The first question was about a self-assessment of oral hygiene, the respondents being asked to position themselves on a value scale from 1 to 5, where 5 is a condition of very good oral hygiene, 4 means good hygiene, 3 means an average hygiene, 2 means bad hygiene, and the value 1 means a very bad hygiene. Of the 152 valid responses collected, 0% mentioned that their oral hygiene is very bad, that is, the value 1. A percentage of 13.8% mentioned that their oral hygiene is, from their point of view, at the level of value 2. For the average value, 3, a percentage of 30.3% estimated that their oral hygiene is at this level. The highest percentage of respondents, respectively 42.8% considered that their oral hygiene is at the level of 4 out of 5. A very good oral hygiene was mentioned in the self-assessment by 13.2% of respondents.

The second question in the questionnaire pursued the respondents' opinion on the possibility that oral hygiene may affect their overall health. 23.7% of respondents stated that they did not believe that this fact was valid and 76.3% provided a positive answer, considering that their oral hygiene can affect their overall health.

The frequency with which adolescents go to the dentist was investigated by question number 6 in the questionnaire. A percentage of 24.3% of the adolescents participating in the questionnaire mentioned that they had never gone to the dentist in the last year. Most of them, 28.9% mentioned that they had been to the dentist once; 25.7% stated that they had been to the dentist twice, and 21.1% said they had been more than twice.

For those who said they hadn't even once gone to the dentist in the past year, another question was asked as to why they did not go. One third of the 45 responses mentioned as a reason the lack of pain or discomfort that would require a visit to the dentist. The lowest number of them, 3, did not go to the dentist because of the lack of dental services in the area. 11 respondents mentioned that it was the fear of treatment or dentist who prevented them from going for a check-up, but most of the respondents, 16, mentioned the cost of dental services as the reason why they had not gone at all to a dental examination or treatment in the last 12 months. 7.9% of those who went to the dentist reported that the reason for the last visit to the dental practice was the wearing of orthodontic devices, 15.2% of the respondents stated a dental treatment, 37.7% said they went due to dental pain and 39.1% for routine check-up.

The 152 respondents were asked about the oral conditions they currently suffer from. Two people mentioned that they currently wear orthodontic apparatus for correcting dental disharmonies. A percentage of 9.9% said they had gum inflammation and 11.8% said that they have lost at least one tooth so far. More than a quarter of the respondents, respectively

29.6%, mentioned that they currently have dental caries, and almost half, respectively 47.4% mentioned that they did not have dental problems when they filled in the questionnaire.

Questions were also included in the questionnaire to indicate the dental hygiene habits of adolescents. Question number 10 aimed to establish how important daily tooth brushing is. To this question, 19,1% of them replied that this was not important, and 80,9% of them consider daily brushing to be an important act for them.

In addition to the importance given to daily dental brushing, the adolescents who participated in the questionnaire were asked if they brushed their teeth daily. Compared to the previous question, 27.6% of adolescents said that they did not brush daily, and a percentage of 72.4% said they brushed their teeth daily.

The next question was aimed to establish how often adolescents brush their teeth daily. Of the 152 responses, 27% mentioned that they brushed their teeth once a day, but every few days. 29,6 percent of the respondents said that they brushed their teeth once a day, and 43,4 of them said that they brushed their teeth twice a day.

The duration of the dental brushing was appreciated by 27% of the respondents at 1-2 minutes, and by 73% of them at about 3-4 minutes. None of them mentioned a duration of more than 4 minutes when performing tooth brushing.

The time frame for changing the toothbrush has been included in the set of questions regarding the dental hygiene habits of adolescents. Of the 152 answers collected, the answers were grouped into the following percentages: 3,3% of them have used a toothbrush for more than 1 year, 12,5% have used a toothbrush for about 1 year, 41,2% change their brush every 6 months, and a similar percentage every 3 months.

Next, the participants in the questionnaire were asked if they used dental floss for oral hygiene, and if they used it, how often they did it. Just over a third of respondents, respectively 34.9% said they did not use dental floss at all for oral hygiene. A percentage of 25% said they used dental floss 3-4 times a month, and 13.8% said they used it 3-4 times a week. It is used once a day by 21.7% of them, and twice a day by only 4.6% of respondents.

The frequency of mouthwash use was also monitored. Of the total, 30,3% do not use mouth water for oral hygiene at all, and 24,3% use it 3-4 times a month. 18.4% use mouthwash about 3-4 times a week, 23% once a day, and 3.95 use it twice a day.

The frequency with which adolescents who have experienced pain in the oral cavity in the last 12 months was monitored. To this question 17.8% of them said that they had had such pain very often, 44.75 said that they had experienced such pain occasionally, and 37.5% answered that they had never had pain in the oral cavity in the last 12 months.

To question number 18 in the questionnaire, the surveyed adolescents were instructed to answer Yes or No to three statements related to oral hygiene habits. Thus, to the statement "I use an electric toothbrush" 43% of them answered yes, and 57% answered no. To the statement "I use a fluoride toothpaste", 48% of them stated that this applied to them, and 52% of them said that they did not use a fluoride toothpaste. To the statement "I use oral hygiene products recommended by the dentist", 46% of them said that suited their situation, and 54% said that that was not their case.

The questionnaire analyzed the eating habits of adolescents. This question presents a multiple answer, aiming to discover which are the most used foods, from the group of those that negatively influence oral health. Thus, out of the 152 answers collected, it appears that meat and eggs (59.2%), dairy (41.6%) and sweets (42.1%) are consumed most often. About a third have in their diet fruit (34.2%), carbonated beverages (32.9%) and bakery products (28.9%). Natural juices (15.8%) and chips (12.5%) are the least consumed.

The last question in the questionnaire was also related to the eating habits of adolescents, monitoring the frequency with which sweets, coffee, carbonated beverages and tobacco are consumed, these being known to be products with a clear negative impact on oral health. Sweets are often consumed, once a day, coffee at all or 3-4 times a month, tobacco at

all or 3-4 times a month, and carbonated beverages are consumed with a frequency similar to that of sweets, the highest percentage stating that they consume them 3-4 times a month.

CONCLUSIONS

As a result of the research carried out, the following aspects have been found, the recommended oral hygiene habits are likely to reduce the incidence of diseases. In addition, dietary habits of a particular type (sugar, fizzy drinks) are recognized as having a negative impact on oral health through direct or indirect mechanisms. The data collected from the 152 respondents show that there are statistically significant correlations between hygiene, eating habits and the appearance of dental diseases.

The first alternative, "Daily tooth brushing, increased brushing frequency, brushing time and the interval at which the toothbrush changes lead to fewer oro-dental conditions." has been fully confirmed. It has been found that daily tooth brushing, changing the toothbrush every three months as well as the longer time given to tooth brushing lead to a lower incidence in the occurrence of oral diseases. The second researched hypothesis, "The use of mouthwash and dental floss leads to a lower frequency of diseases in the oral cavity" has been confirmed, so auxiliary means of prophylaxis have an important role in the daily routine. The third hypothesis, "The consumption of carbonated beverages, sweets, tobacco and coffee is correlated with diseases in the oral cavity", is partially confirmed. The frequency of smoking has been found to be directly proportional to the occurrence of oro-dental diseases.

The comparison of the questionnaire results with the known data on dental diseases at national and international level confirms a correlation of the data, but the limitations of the study, mainly filling in an online questionnaire and the self-evaluation of adolescents, may generate significantly different from those that would be obtained at a clinical examination. Thus, we notice a close percentage of oral diseases (52.6%), similar to the percentage of the international average specified by W.H.O.(66%).

Finally, the economic situation is of particular importance, this research also bringing forward the lack of financial resources as a reason for not having gone to the dentist in the last year or the lack of services in the area.

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