

CONTROVERSIAL ISSUES CONCERNING CONSUMPTION OF CARBONATED DRINKS, COFFEE AND TOBACCO ON ORAL AND DENTAL HEALTH AMONG ADOLESCENTS AGED BETWEEN 13 - 15 YEARS

ILEANA IONESCU¹, OANA EFTENE², CAMELIA IONESCU³, MIHAI BURLIBAȘA⁴, AUGUSTIN MIHAI⁵, VIOREL ȘTEFAN PERIEANU⁶, DANA CRISTINA BODNAR⁷,
TRAIAN BODNAR⁸, IULIANA BABIUC⁹, GABRIELA TĂNASE¹⁰,
MAGDALENA NATALIA DINA¹¹, CLAUDIA CAMELIA BURCEA¹², CRISTIAN COMĂNESCU¹³,
BOGDAN PAVĂL¹⁴

^{1,2,3,4,5,6,7,8,9,10,11,12,13} "Carol Davila" University of Medicine of Pharmacy Bucharest, ¹⁴S.C. DENTALMED COM S.R.L. Brașov

Keywords: adolescents, young people, carbonated drinks, sweets, coffee, tobacco

Abstract: As it is well known, the excessive consumption of sweets and carbonated drinks, are the main causes for the increase of decay incidence among adolescents and young people in Romania. Another problem faced by adolescent and young patients is tooth discoloration due to increased coffee and tobacco consumption. Thus, in this paper we tried to highlight very succinctly the harmful effects that carbonated drinks, sweets, tobacco and coffee have over time on oral and dental health, especially among adolescents and young people.

INTRODUCTION

It is not a myth, but it is very clear that the most common affection of the dento-maxillary system of the "Romanian citizen" is tooth decay. Its frequency to the total population of Romania, regardless of age, puts it at the top of all diseases (over 98%). Tooth decays can be found in primary dentition (pre-school age) with a frequency that varies between 40-60%, then reaches the age of mixed dentition (school age) to over 90% of individuals, affecting even from the first months with an impressive frequency of approximately 50%, permanent teeth (6-year-old molars) to later include, progressively, in relation to age, other teeth. But what gives tooth decay the character of social illness is not only the wide spread among the population but also the degree of affection of an individual's teeth (intensity): quite early, from the growth age, the tooth decays can reach over 50% of teeth from the dental arch.(1-5)

PURPOSE

An extremely interesting aspect that has to be taken into account, is that carious disease is a consequence of the evolution of human nutrition and that, against this evolution that marks a degree of advanced civilization, there is practically nothing to do (we cannot expect in the near future to some measures leading to the eradication of dental decay, but at most to a decrease of the decays index). Nowadays, excess consumption of sweets, especially chocolate and chocolate products, as well as carbonated drinks, are, from our point of view, the main causes of the increase of decays incidence among adolescents and young people in Romania, these foods being true "world champions" in this respect.(1-5)

Another very serious problem faced by the Romanian patient, especially adolescents and young people, is that of tooth discoloration. Specifically, tooth discoloration is a very precise clinical entity with a growing frequency produced by a multitude of local and systemic factors, resulting in unpleasant aesthetic effects on the teeth, and also on patients' smiles.(6) Among the causes of tooth discoloration, there should be

mentioned especially tobacco and coffee.

MATERIALS AND METHODS

In this paper, we approached some extremely interesting issues, namely, on the one hand, excess consumption of sweets, especially chocolate and chocolate products, and carbonated drinks (the main causes in contemporary decay pathology), as well as increasing consumption and excess of coffee and tobacco among adolescents and young people. In fact, we insisted in this article on a 13 to 15 year old age group, meaning adolescents from eighth grade, at the end of which each of the subjects enrolled in the study will support the first important exam in their life, namely the capacity exam. We opted for this age range because at this time for patients included in the study, the permanent dentition replaced in most of cases the primary dentition, and we cannot talk anymore in this case of mixed dentition.(7-12)

There were 47 subjects included in the study, coming from several cities in Romania: Bucharest, Ploiesti, Brasov, Craiova, Pitesti and Alexandria. The method chosen for this study was the questionnaire. It consisted of 8 questions, which were applied to 47 subjects subjected to anonymity and with the written consent of the parents. By applying the questionnaire, it was in fact attempted to implement some preventive measures in the dental medical education, which the authors of this material tried to impose on this group of subjects included in the study.

Thus, the subjects included in this study were distributed as follows: 28 were female (representing 59.57%) and 19 were male (representing 40.43%) (figure no. 1). The study was conducted between 10 and 20 February 2018.

Next, we will present the questionnaire applied to the 47 subjects:

1. Are you aware of the harmful problems (tooth decays, tooth discoloration, etc.) that may occur at your teeth by excessive consumption of sweets (especially chocolate and chocolate products), carbonated drinks, coffee, or smoking?

2. From your point of view, although you are aware of

³Corresponding author: Camelia Ionescu, Str. Plevnei, Nr. 19, Sector 1, București, România, E-mail: mburlibasa@gmail.com, Phone: +40723 472632
Article received on 02.05.2018 and accepted for publication on 29.05.2018
ACTA MEDICA TRANSILVANICA June 2018;23(2):11-14

the harmful effects on teeth, do you consider yourself: **a.** great sweets consumer (especially chocolate and chocolate products, about 150 g / day or more); **b.** average sweets consumer (especially chocolate and chocolate products, approximately 75-100 g / day); **c.** small sweets consumer (especially chocolate and chocolate products, about 50 g / day); **d.** You are not a sweets consumer?

3. In order to prevent carious diseases, do you think that sweets (especially chocolate and chocolate products) should be completely eliminated from adolescents and young people diet: **a.** no; **b.** yes?

4. From your point of view, you drink carbonated drinks, although you are aware of the harmful effects on primary and permanent dentition: **a.** in large amounts (about 2 l / day or more); **b.** in average quantities (about 1-1.5 l / day or more); **c.** in small quantities (about 0.5-1 l / day); **d.** you are not a carbonated drinks consumer?

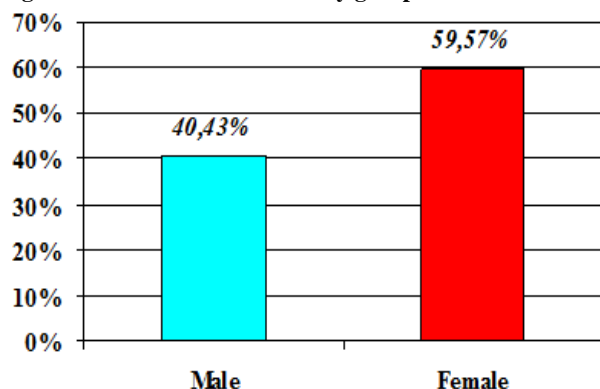
5. In order to prevent carious diseases, do you think that carbonated drinks should be completely eliminated from adolescents and young people diet: **a.** no; **b.** yes?

6. Do you drink coffee: **a.** in large amounts (4-6 cups of coffee / day or more); **b.** in average amounts (2-3 cups of coffee / day or more); **c.** in small amounts (1-2 cups / day); **d.** you are not a coffee consumers or you consume coffee just occasionally?

7. Although you are aware of the harmful effects on primary and permanent dentition, do you smoke tobacco: **a.** in large amounts (1 packet / day or more); **b.** in average amounts (10-15 cigarettes / day or more); **c.** in small amounts (5-7 cigarettes daily) or only occasionally; **d.** you don't smoke at all?

8. Do you think that coffee and tobacco consumption should be completely prohibited for adolescents: **a.** just coffee; **b.** just tobacco; **c.** both; **d.** no answer?

Figure no. 1. Distribution of study group



RESULTS

After studying the answers for the 8 questions, the following results were accounted for:

Regarding the awareness of the harmful problems that can occur on teeth by excessive consumption of sweets, carbonated drinks, coffee or tobacco, only 30 subjects (representing 63.83%) know the risks involved, while the remaining 17 subjects (representing 36.17%) are not aware of the risks involved by the consumption of the mentioned products (figure no. 2).

Concerning the consumption of chocolate-based sweets, although they are aware of the harmful effects on teeth, 20 of the interviewed adolescents (representing 42.55%) declared themselves as large consumers, 16 subjects (representing 34.04%) were considered average consumers, 10 subjects (representing 21.28%) consumed small quantities and

only one subject (representing 2.13%) said he does not support any form of sweets (figure no. 3).

Figure no. 2. Awareness of the excessive consumption of sweets, carbonated drinks, coffee or tobacco negative effects

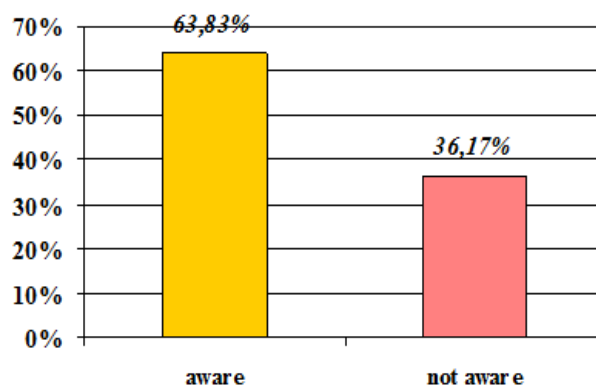
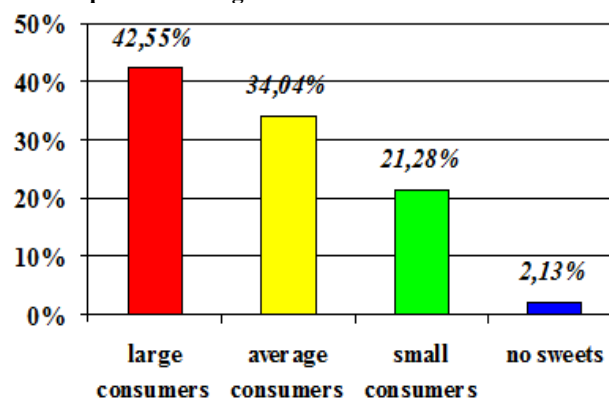
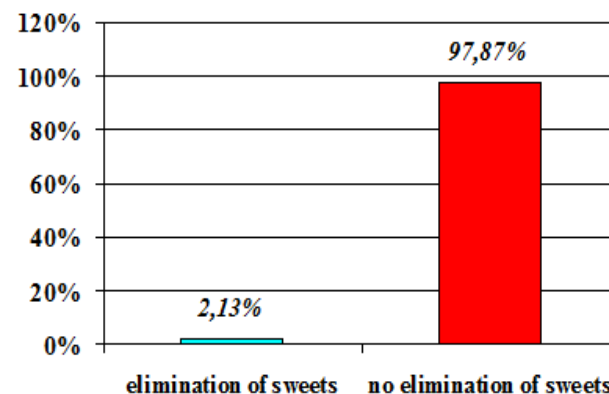


Figure no. 3. Evaluation of chocolate-based sweets consumption of among the adolescents included in the study



To the third question from the questionnaire related to the elimination of sweets in order to prevent carious diseases 46 of the subjects (representing 97.87%) disagreed with their elimination while only one subject (2.13%) responded positively to the elimination of sweets from the nutrition of young people (figure no. 4).

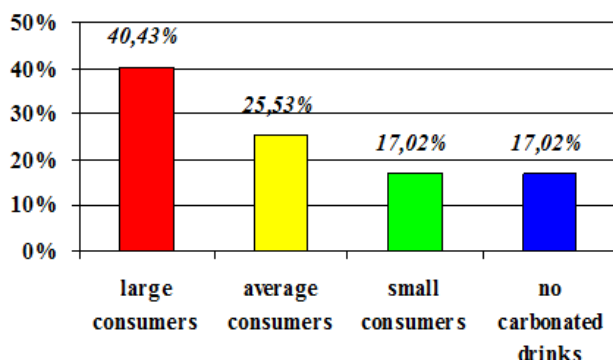
Figure no. 4. Attitude towards the elimination of sweets from the nutrition of adolescents



Regarding the consumption of carbonated drinks, aware of the harmful effects, 19 subjects (representing 40.43%) said they were large consumers, 12 subjects (representing 25.53%) consumed average quantities, 8 (representing 17.02%)

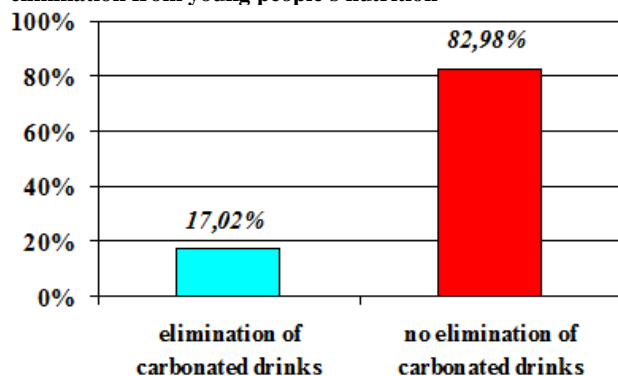
subjects consumed small amounts, while the remaining 8 subjects (representing 17.02%) refused to drink carbonated drinks (figure no. 5).

Figure no. 5. Evaluating the consumption of carbonated drinks among adolescents included in the study



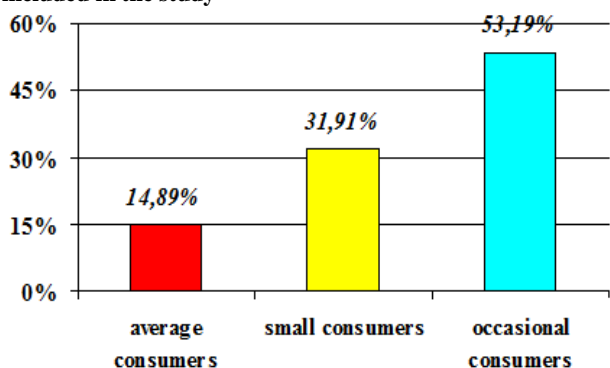
Concerning the elimination of carbohydrate drinks from the diet in order to prevent tooth decays 39 subjects (82.98%) disagreed with their elimination, while 8 subjects (representing 17.02%) considered the consumption carbonated drinks very harmful that must disappear completely (figure no. 6).

Figure no. 6. Attitude towards carbonated drinks elimination from young people's nutrition



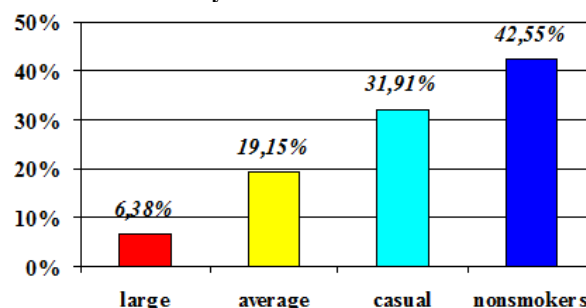
Asked about the daily consumption of coffee, the young people included in the study were included based on their answers in: average consumers, 7 subjects (representing 14.89%), small consumers 15 subjects (representing 31.91%), while the remaining 25 of subjects (representing 53.19%) were classified as occasional consumers (figure no. 7).

Figure no. 7. Coffee consumption among young people included in the study



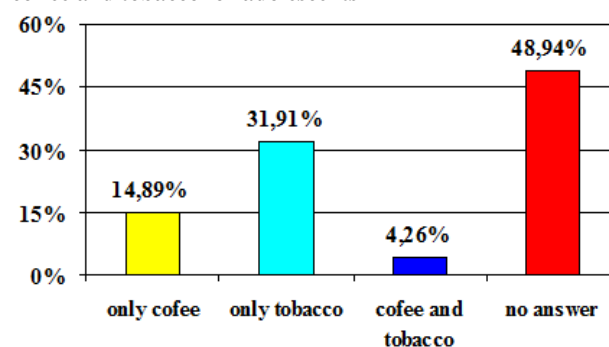
With regard to smoking and more precise number of cigarettes smoked/day, the adolescents included in the study responded as follows: 3 subjects (representing 6.38%) smoked a large number of cigarettes/day, 9 subjects (representing 19.15%) are average consumers, 15 of the young people (31.91%) are casual consumers, and only 20 of the subjects surveyed (42.55%) said they were not smokers (figure no. 8).

Figure no. 8. Tobacco consumption among young people included in the study



In the last question in the study related to prohibiting coffee and tobacco consumption for young people, 7 subjects (14.89%) agreed only with the prohibition of coffee, 15 of the adolescents included in the study (representing 31.91%) agreed only with the prohibition of tobacco, two subjects (4.26%) thought that both should be prohibited, while 23 of the respondents did not respond (48.94%) (figure no. 9).

Figure no. 9. Young people's attitude towards prohibiting coffee and tobacco for adolescents



CONCLUSIONS

After studying the answers for the 8 questions, we can conclude several extremely interesting aspects, namely:

Most of the adolescents involved in the study (63.83%) are aware of the harmful effects (tooth decays, tooth discoloration) that excessive consumption of sweets, carbonated drinks, coffee and tobacco can have on primary and permanent dentition.

Most of the interviewed subjects (42.55%) stated that they are large consumers of sweets and 34.04% mentioned that they are average consumers of sweets, although they are aware of their harmful effects on the primary and permanent dentition, which raises great questions about the level of awareness of these extremely important notions of oral and dental health in the age range of 13-15 years.

With regard to the consumption of carbonated drinks, most of the subjects (40.43%) are large consumers of carbonated drinks, 25.53% are average consumers of these carbonated drinks, although they are aware of the disastrous effects that they produce on primary and permanent dentition.

Both in the case of excessive consumption of sweets

and carbonated drinks, it is necessary to insist on the harmful effects they have on adolescents dentition, both through mass media and oral and dental health education, both in families and in educational establishments.

Only a very small number of subjects included in the study agreed with the total elimination of sweets and carbonated drinks from adolescents and young people nutrition.

Although appearances among adolescents aged between 13 and 15 appear to be quite different, most of the interviewed subjects (53.19%) said they did not consume coffee at all and / or only occasionally, a positive thing for us, however, it should be taken into account that from all the types of products mentioned in this material, coffee presents the least important side effects from a medical point of view.

It is alarming that over half of the adolescents interviewed in order to carry out this study (more precisely 57.45%) are smokers (consumption of large, medium, small and / or occasional cigarettes), although they are aware of the catastrophic effects that tobacco has over time on general health, and implicitly on oral and dental health.

Acknowledgement:

In this article, all the authors have equal contributions.

REFERENCES

1. Gall II. Asistența stomatologică. Editura Didactică și Pedagogică, București; 1071.
2. Miyasaki-Ching C.M. Elemente clinice de stomatologie. Editura All Educational, București; 2001.
3. Bratu D, Ciosescu D, Romînu M, Leretter M, Uram-Țuculescu S. Materiale dentare. Editura Helicon, Timișoara; 1998.
4. Rosenstiel SF, Land MF, Fujimoto J. Contemporary fixed prosthodontics. Fourth Edition. Mosby Elsevier; 2006. p. 431-466.
5. Anusavive KJ. Dental materials. Philips' Science. Saunders Elsevier; 2003. p. 205-253.
6. <https://www.scribd.com/document/268626474/Discromiile-dentare>, Scribid. (2018). Preluat pe 01 24, 2018, de pe www.scribid.com.
7. Cristache CM, Burlibașa M, Tănase G, Nițescu M, Neamțu R. Titanium as dental implant material. Metalurgia International. 2009;14:14-16.
8. Ștețiu AA, Oleksik M, Oleksik V, Ștețiu M, Burlibașa M. Mechanical behavior of composite materials for dental obturations. Romanian Biotechnological Letters. 2013;18(4):8528-8538.
9. Bodnar DC, Pantea M, Bodnar T, Burlibașa M, Dumitru SG, Cristache CM. Patologia mucoasei orale la pacienții vârstnici – studiu clinico-statistic. Acta Medica Transilvanica. 2012;2(2):56-60.
10. Bodnar DC, Dimova C, Bodnar T, Cristache CM, Burlibașa M., Sfeatcu R. Dental management of patient with psychiatric disorders. Modern Medicine. 2010;17(10):538-543.
11. Mocuța D, Popovici LR, Dumitriu AS, Burlibașa L, Ionescu CA, Sfeatcu R. Life quality-condition of social welfare. Metalurgia International. 2009;14:62-64.
12. Burlibașa M, Burlibașa L, Gavrilă LB, Gavrilă VR, Gavrilă L. microRNA a macro Revolution in Medical Biotechnologies. Romanian Biotechnological Letters. 2008;13(6):3977-3983.