

Ю. Д. Бенеш, В. О. Ушакова
ОТБЕЛИВАНИЕ ЗУБОВ: МИФЫ И РЕАЛЬНОСТЬ

*Научный руководитель ст. преп. И. Ю. Абедровская,
Кафедра иностранных языков,
Белорусский государственный медицинский университет, г. Минск*

Резюме. *Статья описывает влияние зубного отбеливания на структуру эмали. Статья включает в себя результаты опроса, проведенного среди студентов Белорусского государственного медицинского университета, и рекомендации по сохранению белизны зубов, без вреда для эмали.*

Ключевые слова: *зубное отбеливание, профессиональное отбеливание, домашнее отбеливание, структура эмали.*

Resume. *The article describes the effects of tooth whitening on the structure of enamel. It includes the results of the survey, conducted among the students of Belarusian State Medical University as well as recommendations for preserving whiteness of teeth without damaging the enamel.*

Keywords: *tooth whitening, professional whitening, home remedy whitening, enamel structure.*

Topicality. Dental bleaching, also known as tooth whitening, is a common procedure in general dentistry. According to the FDA, tooth whitening restores natural tooth color and bleaching whitens tooth beyond the natural color. There are many methods available, such as brushing, bleaching strips, bleaching pen, bleaching gel and laser bleaching. Hollywood stars, who have been recognized as standards of beauty, have brought unnaturally white teeth into fashion. Tooth whitening has become the most requested procedure in cosmetic dentistry nowadays. But actually no one knows about the impact this has on the teeth. So, the relevance of the work is to inform people about the real consequences of tooth whitening.

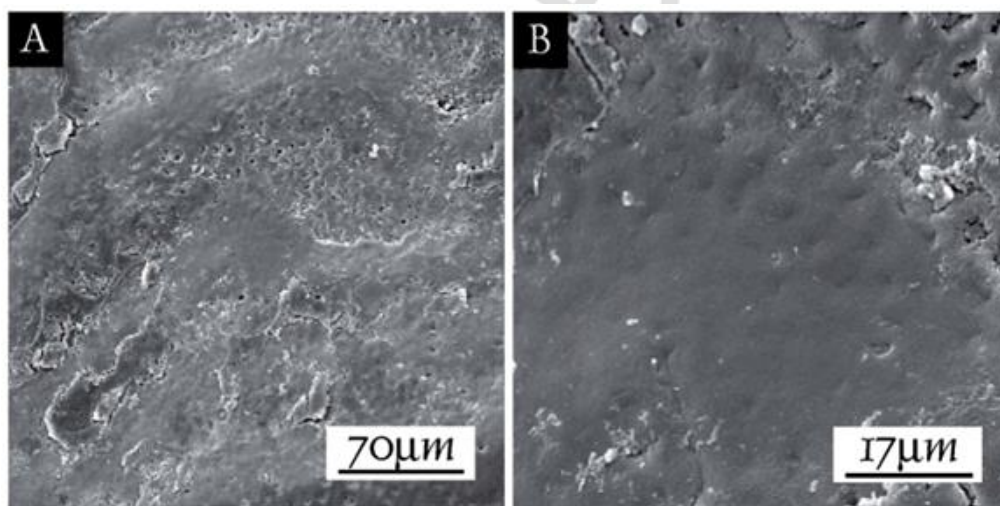
Objective: to study the impact of home remedy and professional whitening on dental health and figure out if people are aware of it.

Tasks:

1. To study the literature on home remedy and professional whitening.
2. To interview experienced dentists to find out their professional opinion about effects of tooth whitening.
3. To develop a questionnaire concerning the ways of tooth whitening.
4. To conduct a survey among the students of Belarusian State Medical University on their opinion about the necessity and appropriateness of tooth whitening.
5. To develop a list of recommendations for preserving whiteness of teeth without damaging the enamel.

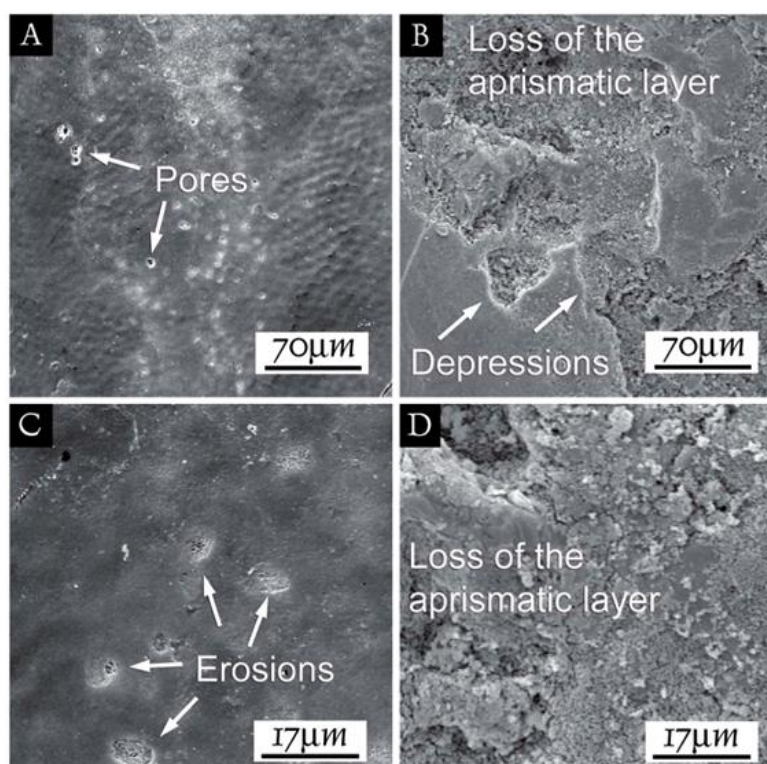
Material and methods. Both native and foreign literature was used as a source of information. The conducted survey involved 50 students of the dental faculty and 50 students of the other faculties of Belarusian State Medical University. We were also consulted by Associate professor s of the Department of General Dentistry of Belarusian State Medical University.

Results and discussion. Enamel is the hardest substance in the human body; its basic unit is called an enamel rod or prism. Enamel rods are generally perpendicular to the underlying dentine. If the rods are arranged correctly, the normal enamel looks smooth, without any depressions and grooves (picture №1).



Picture №1 – Photomicrographs of unbleached enamel

Professional whitening causes loss of aprismatic layer, appearance of pores, craters, depressions and erosions, increased depth of enamel irregularities (picture №2).



Picture №2 – Photomicrographs of bleached enamel

Professional whitening involves applying carbamide peroxide or hydrogen peroxide and using laser light [1].

Hydrogen peroxide is also used for home remedy whitening, as well as activated charcoal, baking soda and lemon juice. According to the acquired information from the literature sources all these manipulations do irreparable harm to enamel of the teeth.

In case of unreasonably frequent usage of these methods of tooth whitening they may result in tooth sensitivity, microcracks in the enamel and even tooth decay.

According to the conducted survey (table №1) the majority of students are not aware of the negative effect caused by tooth whitening. What is more important, the majority of the students of the other faculties except the dental one believe that unnaturally white teeth are an essential part of beauty and attractiveness.

Table 1. Results of the survey conducted among the students of Belarusian State Medical University

Question 1: Do you suppose a white smile to be a necessary attribute of attractive appearance?			
<i>Students of the dental faculty</i>		<i>Students of the other faculties</i>	
Yes	24%	Yes	64%
No	76 %	No	36%
Question 2: What would you like to change about your teeth?			
To change the bite	10%	To change the bite	5%
To align the dentition	16%	To correct the dentition	24%
To change the shape of the teeth	0%	To change the shape of the teeth	5%
To strengthen the enamel	42%	To strengthen the enamel	20%
To make teeth whiter	21%	To make teeth whiter	46%
Nothing	11%	Nothing	0%
Question 3: Would you like to have your teeth whitened?			
Yes	13%	Yes	88%
No	87%	No	12%
Question 4: Have you ever tried home whitening?			
Yes, using hydrogen peroxide	5%	Yes, using hydrogen peroxide	0%
Yes, using activated carbon	6%	Yes, using activated carbon	7%
Yes, using baking soda	11%	Yes, using baking soda	19%
Yes, using lemon juice	6%	Yes, using lemon juice	4%
Yes, using another method	0%	Yes, using another method	7%
No	72%	No	63%

Question 5: Have you ever tried professional whitening?			
Yes, and I was satisfied with with effect	0%	Yes, and I was satisfied with with the effect	4%
Yes, but I was unsatisfied with the effect	0%	Yes, but I was unsatisfied with the effect	0%
No, but I'd like to	13%	No, but I'd like to	56%
No, and wouldn't like to	87%	No, and I wouldn't like to	40%
Question 6: Do you think that whitening causes irreparable harm to your teeth?			
Yes, but only home whitening	14%	Yes, but only home whitening	16%
Yes, but only professional whitening	13%	Yes, but only professional whitening	8%
Yes, in any case	73%	Yes, in any case	56%
No	0%	No	20%

We have developed a list of recommendations to people, who want to have white and healthy teeth, and a list of products, which maintain your teeth in a good condition [2] (table №2).

Table 2. The list of products to maintain whiteness of the teeth

Fruits and vegetables which contain organic acids (strawberries, oranges and lemons)	Malic and citric acids act as a natural astringent – they remove the dark pigment from the teeth surface.
Nuts, apples and broccoli	These products act as abrasives and polish the enamel. Furthermore, they require double mastication, which strengthens gums and masticatory muscles.
Onion	Is an antiseptic of the oral cavity.
Dairy products	Are sources of calcium.
Plain water	Reduces the acidity in the mouth.

Conclusions. Having carried on this research work we drew the following conclusions:

1. Home remedy and professional whitening disturb the integrity of the enamel.
2. There is a need to make people aware of the problems connected with tooth whitening.
3. There are a few alternative natural and professional ways of keeping your teeth white and healthy.

According to all the facts we have come to the opinion that before whitening your teeth you should decide for yourself which is more valuable: pseudo beauty or your dental

health.

J. D. Benesh, V. O. Ushakova
TOOTH WHITENING: MYTHS AND REALITY
Tutor senior teacher I. Y. Abedkovskaya,
Department of foreign languages,
Belarusian State Medical University, Minsk

Литература

1. Луцкая, И. К. Принципы эстетической стоматологии / И. К. Луцкая. – Москва: Медицинская литература, 2012 – 206 с.
2. Луцкая, И. К. Цветоведение в эстетической стоматологии / И. К. Луцкая. – Москва: Медицинская книга, 2006. – 114 с.