

The awareness of adults concerning health-oriented attitudes which reduce the risk of the development of dental caries in children

(Wiedza osób dorosłych na temat zachowań prozdrowotnych zmniejszających ryzyko rozwoju próchnicy u dzieci)

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Abstract - Introduction. The promotion of mouth cavity health is an inseparable element of widely understood health promotion. One should take care of their health, which includes healthy mouth cavity, already from an early age. In childhood in particular, adults play significant role in the development of health-oriented habits in children. The question arises, to what extent they are prepared to the role of educator and promoter of healthy mouth cavity.

The aim of the study was to determine the awareness of adults concerning health-oriented attitudes which reduce the risk of the development of dental caries in children.

Materials and Methods. A survey was conducted among 50 randomly selected adult patients at the "Gold Clinic" dental practice in Warsaw. The studied group consisted of 40 women and 10 men aged 25-45.

The research was conducted in the period from 1 December 2013 to 1 March 2014. An authorial questionnaire was used in the research. All the respondents had been informed in detail about the aim of the research and that the participation is voluntary.

Results and Conclusions. The analysis of the results of the authors' own research enabled to conclude that the promotion of mouth cavity health is an inseparable element of widely understood health promotion. One should take care of their health, which includes healthy mouth cavity, already from an early age. In childhood in particular, adults play significant role in the development of health-oriented habits in children. Among the studied persons, a vast majority notices the detrimental effect of eating sweets as well as of the negligence of teeth brushing by a child, which contributes to the development of dental caries. However, almost 25% of the studied persons, do not find eating sweets and the lack of mouth cavity hygiene in children objectionable. 20% of the respondents do not know any of the potential factors in dental caries. The results of the authors' own research disclose that as much as 96% of the respondents do not see anything wrong in

the habitual thumb sucking by children and 84% - in feeding babies with a bottle with a nipple and they do not link these behaviours with the risk of dental caries development.

The conducted research indicates that only 24% of the studied persons mention unfavourable effects of drinking beverages by a child at night. 76% do not notice the risk of the development of dental caries and obesity in children due to such a behaviour. However, we can welcome the fact that 70% of the respondents answered that the most appropriate frequency of brushing teeth by a child is twice a day. Much more rarely the respondents mentioned brushing after each meal or brushing once a day. The results of the study disclose that 84% of the respondents indicate correctly that the best moment for the first visit of an infant to a dentist is after the first 6 months. At the same time, however, 58% of the respondents do not know that children can have their teeth fluorided. 92% of the studied persons do not know that children have orthodontic problems or they even claim that children do not have such problems. The majority of the studied persons (72%) prefer manual tooth brushing. 22% of the respondents recommended the use of electric toothbrushes. 54% share the opinion that children should brush their teeth on their own. A similar number of the respondents, however, claim otherwise. The presented results of the authors' own research indicate considerable deficiencies of knowledge in adults concerning the attitudes oriented at the maintenance of healthy mouth cavity, especially in the case of children. The research may function as a kind of an educational guide, provided that the observations made by the authors are confirmed by other population-based studies.

Key words - adults, health-oriented attitudes reducing the risk of the development of dental caries, children

Streszczenie – Wstęp. Promocja zdrowia jamy ustnej jest nieodłącznym elementem szeroko pojętej promocji zdrowia. O

swe zdrowie, w tym zdrową jamę ustną trzeba dbać od najmłodszych lat. Zwłaszcza w najmłodszych latach, przy wyrabianiu nawyków prozdrowotnych u dzieci, szczególną rolę do spełnienia mają dorośli. Powstaje pytanie w jakim jednak stopniu są oni przygotowani do roli edukatora i propagatora zdrowej jamy ustnej.

Celem badań było określenie wiedzy osób dorosłych na temat zachowań prozdrowotnych zmniejszających ryzyko rozwoju próchnicy u dzieci.

Materiał i metoda. Badaniom ankietowym poddano 50 losowo wybranych dorosłych pacjentów gabinetu stomatologicznego „Gold Clinic” w Warszawie. W badanej grupie było 40 kobiet i 10 mężczyzn w wieku 25 - 45 lat.

Badania przeprowadzono w okresie od 1.12. 2013 do 1.03.2014 roku. W badaniach wykorzystano formularz ankiety własnego autorstwa. Wszyscy respondenci byli dokładnie poinformowani o celu badania i dobrowolnym w nim udziale.

Wyniki i wnioski. Przeprowadzona analiza wyników badań własnych pozwoliła stwierdzić, że promocja zdrowia jamy ustnej jest nieodłącznym elementem szeroko pojętej promocji zdrowia. O swe zdrowie, w tym zdrową jamę ustną trzeba dbać od najmłodszych lat. Zwłaszcza w najmłodszych latach, przy wyrabianiu nawyków prozdrowotnych u dzieci, szczególną rolę do spełnienia mają dorośli. Wśród badanych zdecydowana większość dostrzega niekorzystne znaczenie spożywania słodczy, a także zarzucenie mycia zębów przez dziecko, co sprzyja powstawaniu próchnicy. Prawie 1/4 badanych nie widzi jednak nic nagannego w spożywaniu słodczy i braku prowadzenia higieny jamy ustnej przez dzieci. 20% respondentów nie zna żadnego z potencjalnych czynników próchnicy. Z badań własnych wynika, że aż 96% respondentów w nawyku ssania przez dziecko kciuka, a 84% - w karmieniu dziecka butelką ze smoczkiem nie widzi nic złego, nie wiążąc takiego zachowania z ryzykiem rozwoju próchnicy.

Przeprowadzone badania wskazują, że tylko 24% ogółu badanych wskazuje na niepożądane skutki picia przez dziecko napojów w nocy. 76% nie dostrzega w takim postępowaniu ryzyka rozwoju próchnicy i otyłości u dzieci. Musi cieszyć, że 70% respondentów za najodpowiedniejszą częstość mycia przez dziecko zębów uznaje 2-krotne w ciągu dnia mycie, znacznie rzadziej indagowani wskazywali mycie po każdym posiłku lub mycie tylko raz na dzień. Uzyskane wyniki wskazują, że 84% respondentów prawidłowo wskazuje, że najlepszy moment do pierwszej wizyty niemowlaka u stomatologa następuje po upływie 6 miesięcy życia dziecka, ale jednocześnie 58% respondentów nie wie o tym, że dziecko może mieć fluorowane zęby. 92% badanych nie wie lub wręcz twierdzi, że dzieci nie mają problemów ortodontycznych. Wśród badanych przeważali (72% ogółu) zwolennicy stosowania ręcznego szczotkowania zębów. Elektryczne szczoteczki zaleca stosować 22 % respondentów. Opinię dotyczącą samodzielności szczotkowania zębów przez dziecko podziela 54% respondentów. Zbliżona liczba indagowanych jest jednak przeciwnego zdania. Przedstawione wyniki badań własnych wskazują na duże niedostatki wiedzy dorosłych w zakresie prawidłowych

zachowań służących utrzymaniu zdrowia jamy ustnej zwłaszcza u dzieci. Badania te mogłyby być rodzajem drogowskazu edukacyjnego, pod warunkiem potwierdzenia dokonanych przez autorów spostrzeżeń w innych badaniach o charakterze populacyjnym.

Słowa kluczowe - dorośli, zachowania prozdrowotne zmniejszające ryzyko rozwoju próchnicy, dzieci

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Accepted for publication: November 15, 2014.

I. INTRODUCTION

Dental caries is a disease caused by a number of general and local factors. The most significant factors affecting the development of dental caries include: dental plaque bacteria, carbohydrates (substrate), tooth susceptibility, time. Basic preventive tasks include the prevention of each of the aforementioned factors and affecting them. Prevention is better means of counteracting caries than the treatment thereof. Multidirectional preventive actions, conducted along with stomatological treatment, bring profit in the future, largely allow to avoid the problem of dental caries in children, and contribute to the improvement of oral hygiene [1-3]. For this reason, it is advisable that every

parent remember that the costs of the treatment of dental caries are incomparable to investment in prevention.

The prevention of dental caries in children and youth includes, among others:

- early influence on the structure of hard tissues of a tooth - during the tooth's development and after its eruption - by proper diet and fluoridation as well as pit and fissure sealing of teeth vulnerable to caries,
- hygienic treatment aiming at the reduction of dental plaque [4].
- It should be also mentioned that apart from diet, fluoridation and hygienic treatment, various projects and lectures are also means of prevention and they are intended to acquaint every parent with the discussed subject. One of the forms of such an activity is to form preschool groups which are invited to dental practices, where children can learn how to brush their teeth properly, how to eat properly and they can also see a dental practice in operation [5].

Risk factors: factors influencing the development of dental caries in a child.

The development of dental caries as well as of defects in chewing system are influenced by several types of behaviour and habits, such eating sweet snacks (carbohydrates), snacking between meals, time in which acid-producing bacteria affect a tooth's tissues, the lack of tooth brushing after each meal, thumb sucking, using nipples after infant period, improper diet and improper oral hygiene. Increased susceptibility of dental tissues predestines to the development of dental caries, which is genetically determined [6-8].

Aim of the study. The still-prevalent socio-medical dimension of dental caries prompted the authors to undertake their own research aiming at the determination of the awareness of adults concerning health-oriented attitudes which reduce the risk of the development of dental caries in children.

II. MATERIALS AND METHODS

Materials

A survey was conducted among 50 randomly selected adult patients at the "Gold Clinic" dental practice in Warsaw. The studied group consisted of 40 women and 10 men aged 25-45.

Methods

The research was conducted in the period from 1 December 2013 to 1 March 2014. An authorial questionnaire was used in the research. All the respondents had been informed in detail about the aim of the research and that the participation is voluntary.

III. RESULTS

The studied group profile

- **Sex**

50 persons participated in the research, including 40 women and 10 men.

- **Age**

The age of the studied persons ranged from 25 to 45 years. The age distribution of the studied group taking the decades of life into consideration has been presented in Table 1.

Table 1. Age distribution of the studied persons in respective decades of life

	Decades		
	20-29 years of age	30-39 years of age	40-49 years of age
The number of persons	5	38	7
%	10.0	76.0	14.0

Persons 30-39 years old definitely predominated in the studied group (76% of the respondents).

- **Place of residence**

In the analysed group, 38 persons lived in a city (76% of the respondents) and 12 persons in the countryside (24% of the respondents).

The distribution of the place of residence among the studied persons taking the size of the city into consideration has been presented in Table 2.

Table 2. The distribution of the respondents' place of residence according to the city size.

	Place of residence - city				
	a city with less than 25,000 residents	a city with 25,00-100,000 residents	a city with 25,00-100,000 residents	a city with 100,000-500,000 residents	a city with more than 1,000,000 residents
The number of persons	0	5	4	6	23
%	0	13.2	10.5	15.8	60.5

Table 2 shows that 23 persons (i.e. 60.5% of the respondents) lived in a city with more than 1,000,000 residents. A comparable number of the respondents lived in cities with smaller populations.

Question: In which age a child should visit a dentist for the first time?

Table 3. The age in which a child should visit a dentist, as indicated by the respondents

The age in which a child should visit a dentist for the first time	The respondents' answers	
	The number of persons	%
6-11 months	8	16.0
12-15 months	5	10.0
16-23 months	8	16.0
24-29 months	9	18.0
30-35 months	6	12.0
36-41 months	6	12.0
42-47 months	-	-
48-53 months	3	6.0
54-59 months	1	2.0
60-65 months	1	2.0
66-71 months	3	6.0
Total	36	100.0

Table 3 indicates that 84% of the respondents consider that the child's first visit to a dentist should occur after six months of age.

Question: What are in your opinion the most frequent factors causing dental caries in children? (mark three factors which are, in your opinion, the most probable)

Table 4. The respondents' opinion on the most frequent factors causing dental caries

The factors causing dental caries	The number of persons
fizzy drinks	1
sweets	38
no tooth brushing	11
medications	1
improper oral hygiene	8
no tooth brushing before sleep	2
no tooth brushing after each meal	5
too short and careless tooth brushing	1
the lack of parent attendance by tooth brushing	1
prolonged feeding with mashed food	1
bad diet	2
genes	2
snacking between meals	2
falling asleep with a bottle with a nipple in mouth	1
licking bottle nipples by adults	1
eating at night/night feeding	2
dental plaque	1
the lack of regular visits to a dentist	1
fluorine	1
using the same cutlery	1
I don't know	10

By far the most frequent cause of dental caries indicated by the respondents was sweets, followed by the negligence of tooth brushing. However, it should be

noted that as much as 10 respondents were not able to select any of the potential factors of dental caries listed in the questionnaire.

Question: Do you think that drinking beverages at night by a child, e.g. juice or tea, increases the risk of the development of dental caries?

Table 5. The respondents' opinion regarding the significance of drinking beverages at night by a child for the increased risk of the development of dental caries

Do you think that drinking beverages at night by a child, e.g. juice or tea, increases the risk of the development of dental caries?	The number of the respondents	%
yes	12	24
no	38	76
Total	50	100

The research discloses that only 12 respondents (24% of the studied persons) mentioned unfavourable effects of drinking beverages by a child at night. 76% do not notice the risk of the development of dental caries and obesity in children due to such a behaviour.

Question: Do you think that thumb sucking by a child increases the risk of the development of dental caries?

Table 6. The respondents' opinion regarding the significance of thumb sucking for the increased risk of the development of dental caries

Do you think that thumb sucking by a child increases the risk of the development of dental caries?	The number of the respondents	%
yes	2	4
no	48	96
Total	50	100

Table 6 shows that as many as 48 persons, i.e. 96% of the respondents, do not regard the habit of thumb sucking as something wrong and they do not link such a

behaviour with the risk of the development of dental caries.

Question: How often, according to you, should a child brush his/her teeth?

Table 7. Proper frequency of tooth brushing, as indicated by the respondents

How often, according to you, should a child brush his/her teeth?	The number of the respondents	%
once a day	6	12
twice a day	35	70
after every meal	6	12
occasionally	2	4
never	1	2
Total	50	100

The conducted research reveals that for 35 respondents (70%) the most appropriate frequency of brushing teeth by a child is twice a day. Much more rarely the respondents mentioned brushing after each meal or brushing once a day.

Question: Do you think that a child should have his/her own toothbrush?

Table 8. The respondents' opinion whether a child should have his/her own toothbrush

Does a child have his/her own toothbrush?	The number of the respondents	%
yes	49	98
no	1	2
Total	50	100

Almost every respondent (49 persons, i.e. 98% of the studied group) thinks that a child should have his/her own toothbrush.

Question: Which type of a toothbrush would you recommend for your child?

Table 9. The type of a toothbrush recommended by the respondents

Which type of a toothbrush would you recommend for your child?	The number of the respondents	%
manual	36	72
electric	11	22
manual/electric interchangeably	2	4
Total	50	100

The majority of the studied persons (72%) prefer manual tooth brushing. The use of electric toothbrushes is recommended by 11 persons, i.e. 22%.

Question: Do you think that a child should brush teeth on his/her own?

Table 10. The respondent's opinion regarding unassisted tooth brushing by a child

Do you think that a child should brush teeth on his/her own?	The number of the respondents	%
yes	27	54
no	23	46
Total	50	100

The presented data indicate that the opinion that a child should brush teeth on his/her own is held by 27 respondents (54%). A similar number of the respondents, however, claim otherwise.

Question: Do you think that feeding a child with a bottle with a nipple can increase the risk of the development of dental caries?

Table 11. The respondents' opinion regarding the significance of feeding a child with a bottle with a nipple for the development of dental caries

Do you think that feeding a child with a bottle with a nipple can increase the risk of the development of dental caries?	The number of the respondents	%
yes	8	16
no	42	84
Total	50	100

The data in Table 11 indicate that 42 respondents (i.e. 84%) do not regard feeding a child with a bottle with a nipple as something wrong and they do not notice the risk of the development of dental caries.

Question: Do you think that falling asleep with a bottle with a nipple in mouth can increase the risk of the development of dental caries?

Table 12. The respondents' opinion on the significance of falling asleep with a bottle with a nipple in mouth

Do you think that falling asleep with a bottle with a nipple in mouth can increase the risk of the development of dental caries?	The number of the respondents	%
yes	8	16
no	42	84
Total	50	100

42 respondents, i.e. 84%, do not link falling asleep with a bottle with a nipple in mouth with the increased risk of the development of dental caries.

Question: Do you think that eating sweets by children affects the development of dental caries?

Table 13. The respondents' opinion concerning eating sweets by children

Do you think that eating sweets by children affects the development of dental caries?	The number of the respondents	%
yes	38	76
no	12	24
Total	50	100

38 persons, i.e 76% of the respondents notice that eating sweets by a child is linked with the risk of the development of dental caries. It should be noted, however, that almost 25% of the respondents does not regard eating sweets as improper.

Question: Do you think that a child should eat hard food, e.g. bread, raw fruit?

Table 14. The respondents' opinion regarding the possibility of eating hard food by a child

Do you think that a child should eat hard food, e.g. bread, raw fruit?	The number of the respondents	%
yes	40	80
no	10	20
Total	50	100

The collected data (Table 14.) indicate that 40 persons, i.e. 80% of the respondents think that children should eat hard food.

Question: Do you think that a child can have his/her teeth fluorided?

Table 15. The respondents' opinion regarding teeth fluoridation in children

Do you think that a child can have his/her teeth fluorided?	The number of the respondents	%
yes	21	42
no	29	58
Total	50	100

The data in Table 15 shows that 29 respondents, i.e. 58%, do not know that a child can have his/her teeth fluorided.

Question: Do you think that a child can have orthodontic problems?

Table 16. The respondents' opinion concerning the risk of the development of orthodontic problems in children

Do you think that a child can have orthodontic problems?	The number of the respondents	%
yes	4	8
no	28	56
I don't know	18	36
Total	50	100

Table 16. indicates that as much as 48 respondents, i.e. 92% of the studied group, do not know that a child can have orthodontic problems or even claim that children do not have such problems.

IV. DISCUSSION

Nowadays, it is assumed that the factors affecting the health of mouth cavity can be divided into four components: health-oriented attitudes (lifestyle), individual (genetic) conditions, the efficiency of health care system and an individual's social, environmental, political and economic conditions of life. It is

emphasised that the significance of these factors varies for different diseases [8,9]. It is generally agreed that these factors affect the mouth cavity health in the following way: lifestyle, i.e. the models of healthy attitudes in 35%, socio-economic conditions in 35% and the significance of 15% is assigned both to individual conditions and the efficiency of dental care [10-12]. The promotion of mouth cavity health is an inseparable element of widely understood health promotion [13,14]. One should take care of his/her health, including healthy mouth cavity, from an earliest age. In childhood in particular, adults play significant role in the development of health-oriented habits in children. The question arises, to what extent they are prepared to the role of educator and promoter of healthy mouth cavity. In search of the answer for this question the authors have undertaken their own research. The research was intended as an attempt to disclose the actual knowledge of adults on proper, health-oriented attitude concerning oral hygiene in the case of children.

There are numerous publications on the role of sweets in the development of dental caries [15-19]. It is emphasised that carbohydrates have destructive effect on the process of demineralisation and remineralisation of enamel, which occurs during the performance of organic acids produced by microorganisms living in dental plaque [15]. Saccharides which transfer into a bacterial cell are transformed into organic acids and then released. The acids undergo the process of dilution and neutralisation by the components of saliva. In the case of high level of organic acids, pH is lowered to a level in which oral cavity fluids become unsaturated in relation to hydroxylapatites, which results in the reduction of crystal volume and increases the interrod space of enamel. With further pH decrease, oral cavity fluids become unsaturated in relation to fluorohydroxyapatites and enamel erosion occurs. The presented opinions from the publications correspond to the results of the authors' own research. The results indicate that a vast majority of the studied persons notice detrimental effect of eating sweets as well as of a child's negligence concerning teeth brushing, which contributes to the development of dental caries. It is undoubtedly surprising, however, that as much as ca. 25% of the studied group do not regard such a behaviour as something wrong and 20% of the respondents were not able to select any of the potential factors of dental caries listed in the questionnaire.

Dental plaque, also called a biofilm, is a continually changing structure. It maintains its own

microenvironment, which affects the processes concerning mouth cavity health. It consists of acidogenic bacteria which can populate a low pH environment. These bacteria cause the development of dental caries. They include the microorganisms from the mutans streptococci group, which cause gingivitis. In later stage of decay disease, after the development of an enamel cavity, *Lactobacillus acidophilus* bacteria gain significance. In the tooth decay process, with the pH decrease below the critical level (about 5.5), the acids produced by the bacteria commence the process of enamel demineralisation, which lasts about 20 minutes or more depending on the availability of carbohydrates and the influence of saliva.

Detrimental habits, non-typical activities described as parafunctions, are usually performed unconsciously. The most common parafunctions include sucking a rubber nipple or a finger - described as digitomania [6]. Sucking is a physiological activity occurring in the first year of life - the period of infancy. According to Borysiewicz-Lewicka et al. and Ganowicz et al. [16,20], the habit is harmful if it continues after the first year of life. In a small number of cases, sucking a finger has psychological or sometimes social ground, but it always requires investigation. According to Cameron and Widmer [6], thumb sucking can be accepted until 2-3 years of age. The occurrence of these activities until this time does not result in permanent defects - tooth deviations or changes in the shape of jaws. If the habit continues after the 2-3 year of age, it may cause malocclusions in the front teeth. This effect occurs also after prolonged sucking of a rubber nipple or drinking from a bottle with a nipple. Depending on how a child places a finger in his/her mouth, characteristic malformations can develop. For example, placing a finger under the front, upper section of maxillary dental arcade leads to the outward leaning of the upper incisors, the inhibition of the transverse jaw development (narrowing), which may be accompanied by the inclination of lower incisors. Placing the sucked finger hooked against lower incisors leads to the protrusion of the mandibular dental arcade, which contributes to the development of class III disorders. Any placement of the sucked finger may lead to the inhibition of vertical growth of the alveolar process and the development of open bite. Sucking other objects, depending on their shape and placement in oral cavity, causes similar malocclusions [4]. The authors' own research indicates that as much as 48 persons, i.e. 96%

of the respondents, do not perceive the sucking habit as something wrong and do not link such a behaviour with the risk of the development of dental caries.

The most frequently sucked object is a rubber nipple. The habit originates, first of all, in frequent substitution of breast feeding with artificial feeding and secondly in sucking an empty nipple between feeding. Depending on its shape, hardness and placement, a rubber nipple either pushes the mandible backwards, simultaneously pushing the incisors "out", as described in the previous paragraph, or it maintains a diastema between the incisors. For this reason, a nipple can contribute to the development or aggregation of: distocclusion, incisor protrusion (upper incisors in particular) or jaws narrowing [4,6,7,21]. The authors' own research indicates that 84% of the respondents do not regard feeding a child with a bottle with a nipple as something wrong and do not notice the increased risk of the development of dental caries.

Teaching a child to chew food is a fundamental element of the introduction of a child to unassisted eating. The consistency of food, however, must be changed gradually as the child becomes older. The emphasis is placed on the danger related to unnecessary prolongation of sucking period and eating thoroughly mashed food. A child should be taught to chew food gradually, so that in the 11-12 month of life he/she should easily manage to eat larger pieces of fruit and vegetables. It is a welcome fact that 80% of the respondents stress that a child should eat hard food, e.g. bread or raw fruit. It should be also noted at this point, that it is even recommended to discourage children from sucking hard candies and licking lollipops. Consequently, opportunities of "safer" contact of carbohydrates with teeth arise as opposed to constant "snacking" of sweets [15,16].

The research discloses that only 24% of the studied persons mentioned unfavourable effects of drinking beverages by a child at night. 76% do not notice the risk of the development of dental caries and obesity in children due to such behaviour.

However, we can welcome the fact that 70% of the respondents answered that the most appropriate frequency of brushing teeth by a child is twice a day. Much more rarely the respondents mentioned brushing after each meal or brushing once a day.

It is recommended to make the first, adaptive visit to a dentist with a child when he/she is 2 years old. The child will become acquainted with the dental practice,

the dentist himself/herself who may be able to see the child's teeth. If there are few cavities, the dentist will probably recommend fluoridation. It is a treatment which will help prevent dental caries. The data gathered during the author's research disclose that 84% of the respondents indicate correctly that the best moment for the first visit of an infant to a dentist is after the first 6 months. At the same time, however, 58% of the respondents do not know that children can have their teeth fluorided.

Orthodontic treatment for children and youth is intended, above all, to maintain healthy teeth, periodontium and temporomandibular joints as well as one's well-being, good look and smile and it also aims at the neutralisation of some speech disorders. However, the authors' own research discloses that 92% of the studied persons do not know that children have orthodontic problems or they even claim that children do not have such problems.

As far as the maintenance of oral hygiene is concerned, a toothbrush is paramount. A toothbrush with bristles that are too hard hurts gums and causes bleeding. Toothbrushes with hard bristles are available for purchase but they are recommended for brushing dental prostheses and orthodontic devices, not teeth. The head of a toothbrush should be flexible so as to enable to clean hard-to-reach areas; a handle should lie well in hand. A toothbrush should be replaced every three months. Toothpaste should be selected according to one's needs (whitening, for sensitive gums, freshening). If teeth are healthy, toothpaste with a comprehensive effect ought to be used. Dental floss is also indispensable for oral hygiene. It should be used to clean interdental spaces before every tooth brushing. A tongue scraper is also useful as it will remove the mould. A toothbrush should not be used for tongue cleaning, since it transfers bacteria from teeth to tongue. It is also advisable to rinse one's mouth with mouthwash, which reaches the areas inaccessible to a toothbrush. Mouthwash eliminates bacteria and consequently prevents the development of dental plaque and it makes one's breath fresher. It is also helpful in the case of frequent inflammations in mouth cavity. Mouthwashes without alcohol should usually be used, since alcohol dries out the oral mucosa. As far as electric toothbrushes are concerned, it is emphasised that most of them have numerous modes of brushing specialised at sensitive teeth brushing, teeth whitening, gums massaging, which has beneficial effect for

peridontium. Moreover, there are also pressure sensors which signal when one is brushing their teeth too hard. In the case of problems with gums, it is advised to choose a toothbrush with soft bristles and hard bristles are recommended to persons whose teeth tend to develop calculus. The majority of the studied persons (72%) prefer manual tooth brushing. The use of electric toothbrushes is recommended by 11 persons, i.e. 22%. [22,23].

The presented data indicate that the opinion that a child should brush teeth on his/her own is held by 27 respondents (54%). A similar number of the respondents, however, claim otherwise.

The presented results of the authors' own research indicate considerable deficiencies of adults' knowledge concerning the attitudes oriented at the maintenance of healthy mouth cavity, especially in the case of children. The research may function as a kind of an educational guide, provided that the observations made by the authors are confirmed by other population-based studies.

V. CONCLUSIONS

1. The promotion of mouth cavity health is an inseparable element of widely understood health promotion. One should take care of their health, which includes healthy mouth cavity, already from an early age. In childhood in particular, adults play significant role in the development of health-oriented habits in children.
2. Among the studied persons, a vast majority notice the detrimental effect of eating sweets as well as of the child's negligence concerning teeth brushing, which contributes to the development of dental caries.
3. Almost 25% of the studied persons, however, do not find eating sweets nor the lack of mouth cavity hygiene in children objectionable.
4. 20% of the respondents do not know any of the potential factors in dental caries.
5. The results of the authors' own research disclose that as much as 96% of the respondents do not see anything wrong in the habitual thumb sucking by children and 84% - in feeding babies with a bottle with a nipple and they do not link these behaviours with the risk of dental caries development.

6. The conducted research indicates that only 24% of the studied persons mentioned unfavourable effects of drinking beverages by a child at night. 76% do not notice the risk of the development of dental caries and obesity in children due to such a behaviour.
7. However, we can welcome the fact that 70% of the respondents answered that the most appropriate frequency of brushing teeth by a child is twice a day. Much more rarely the respondents mentioned brushing after each meal or brushing once a day.
8. The results of the study disclose that 84% of the respondents indicated correctly that the best moment for the first visit of an infant to a dentist is after the first 6 months. At the same time, however, 58% of the respondents do not know that children can have their teeth fluorided.
9. 92% of the studied persons do not know that children have orthodontic problems or they even claim that children do not have such problems.
10. The majority of the studied persons (72%) prefers manual tooth brushing. 22% of the respondents recommended the use of electric toothbrushes.
11. 54% share the opinion that children should brush their teeth on their own. A similar number of the respondents, however, claim otherwise.
12. The presented results of the authors' own research indicate considerable deficiencies of adults' knowledge concerning the attitudes oriented at the maintenance of healthy mouth cavity, especially in the case of children. The research may function as a kind of an educational guide, provided that the observations made by the authors are confirmed by other population-based studies.

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