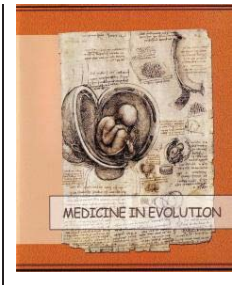


Parents' involvement in children oral hygiene



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Abstract

Parents play an important role in children' oral health by being decisional agents for hygiene habits in the first years. The aim of this cross-sectional study was to assess the children oral hygiene habits with parents' contribution. Material and methods: The study was conducted on 105 parents who were assessed using a self-administered on-line questionnaire. Results: Tooth-brushing twice daily is performed in 88.88% of cases in "under 2 years" age group by parents, and in half of the rest of cases. Fluoridated toothpaste is used by low number of children and around one quarter of parents are not aware whether their child' toothpaste contains fluoride. Recommended quantity of toothpaste is used by only 22.22% for children under 2 years, 52.38% for 2-6 yrs, 27.08% for 6-12 yrs. Conclusions: Oral hygiene habits are less than optimal. Parents' oral health education needs improvement in order to gain the recommended behaviors for children.

Keywords: oral health promotion, children oral hygiene, parents oral health education

INTRODUCTION

Dental caries remains the most frequently met oral disease among both adults and children, from early stages of life. Early Childhood Caries (ECC) is the particular form of dental caries disease that affects children under 6 years of age, with the most recent definition adopted by the International Association of Pediatric Dentistry (IAPD) as it follows: “the presence of one or more decayed (non-cavitated or cavitated lesions), missing or filled (due to caries) surfaces, in any primary tooth of a children under six years of age” [1]. And even if the prevalence varies between countries, from 12% in UK to 90% in Cambodia [2], globally 600 million children are affected by ECC [1,3]. These are facts despite that this is a highly preventable oral disease and unfortunately under-treated, affecting children quality of life [1]. In 2019, IAPD published the new consensus regarding the prevention and management of ECC: Declaration of Bangkok. Among the key strategies, aiming to reduce the burden of this disease, promoted by this Declaration, engaging the parents in children oral health and twice daily tooth brushing with optimal amount of fluoridated toothpaste, have a high impact [1]. Parents play an important role in children oral health in the first years of a child’s life by deciding over child’s exposure to dental caries risk factors like diet, oral hygiene, fluoride intake or dental services utilization [3, 4]. Therefore, raising awareness among the parents and engaging them in children oral health is the cornerstone of prevention of ECC. Fluoride exposure is mandatory for the prevention of dental caries and fluoridated toothpaste proved to be the ‘ideal public health method’ due to many advantages that this oral hygiene product offers: it is widely accepted and used by global population, have an accessible price and very efficient when proper fluoride concentration is used. According to the updated European Association of Pediatric Dentistry (EAPD) guideline for fluoride use, in order to obtain the optimal preventive effect of oral hygiene in children, the following recommendation should be applied:

- a) frequency of tooth brushing: twice daily regardless the child’s age, after the eruption of the first temporary tooth. And depending on the age of the child, the person in charge with the children was already established [5, 6] as it follows: in the first 2 years of life: by the parent; between 2 and 6 years of age: by the child and completed by the parent who re-brushes the hard-to-access areas; between 6 and 12 years of age: by the child under the supervision of the parent; after 12 years: only by the child.
- b) concentration of fluoride: 1000 ppm from the eruption of the first tooth and up to 6 years; 1450 ppm over 6 years.
- c) quantity of fluoridated toothpaste: age-adapted as it follows: from the eruption of the first tooth and up to 2 years: rice size; between 2 and 6 years: pea size; over 6 years: up to the length of the toothbrush.

Aim and objectives

The aim of the study was the assessment of parents' involvement in their child’s oral hygiene. To achieve this goal, the objective established were the evaluation of the following: the frequency of child’s tooth brushing and what is the parent contribution, the use of fluoridated toothpaste, the amount of toothpaste used.

MATERIAL AND METHOD

The cross-sectional study took place between January and June 2020, in Romania, on a sample of 105 parents, with a mean age of 38.38 ± 5.41 years. The assessment was performed using a self-administered on-line questionnaire. Their children, to whom they referred in their answers, had an age between 9 months and 17 years and were divided in age-groups in order to assess the age-adapted oral hygiene habits as recommended by the IAPD and EADP

guidelines. For parents who had more than one child, different questionnaires were filled-out for every child. Descriptive analyze was performed for frequency assessment of the variables.

RESULTS

The results were rendered after distribution on age groups of children of the parents enrolled in the study, as it follows: < 2 years: 9 children; 2-6 years: 21 children, 6-12 years: 48 children, and >12 years: 27 children.

a) Frequency of tooth brushing

The frequency of children brushing twice daily was highest among the youngest group, under 2 years: 88.88% (N=8) and lowest among the group between 2 and 6 years: 42.85% (N=9) while among the other two age-groups the frequency is still far from ideal, with only half of the children brushing twice a day (Table I).

Regarding the person performing the tooth brushing, for children under 2 years in only 88.88% (N=8) of cases is performed, as recommended by the parent while for 11.12% (N=1) the parent only completes the tooth brushing performed by the child. For age group between 2 and 6 years, in only 38.11% (N=8) of cases is tooth brushing performed, as recommended, by the child and completed by the parent while for 42.85% (N=9) only the parents do the tooth brushing and in lower percentages children are given this task either exclusively (9.52%) or under the monitoring of the parent (9.52%). For the age group between 6 and 12 years, in only 2,08% (N=1) of cases tooth brushing is performed, as recommended, by the child and under parents monitoring, while the highest percent of children perform the tooth brushing without any contribution from parents. (45.84%, N=22) and for the others parents are still involved either by performing the entire tooth brushing (25%) or by completing it (27.08%). For the group of children older than 12 years, in only 55,55% (N=15) of cases tooth brushing is performed, as recommended, only by the child, while in one third of cases the parents still are the ones performing the tooth brushing (29.62%, N=8) (Table II).

Table I. Frequency of tooth brushing, on different age-groups

	Twice a day		Once a day		Seldom		Never	
	N	% (of the age group)	N	% (of the age group)	N	% (of the age group)	N	% (of the age group)
< 2 yrs	8	88.88 %*	1	11.12 %	0	0 %	0	0 %
2-6 yrs	9	42.85 %*	9	42.85 %	3	14.30 %	0	0 %
6-12 yrs	27	56.25 %*	19	39.58 %	2	4.17 %	0	0 %
>12 yrs	15	55.55 %*	12	44.45 %	0	0 %	0	0 %

*recommended

Table II. Persons in charge of the child's tooth brushing, on different age-groups

	By the parent only		By the child and completed by parent		By the child supervised by the parent		By the child only	
	N	% (of the age group)	N	% (of the age group)	N	% (of the age group)	N	% (of the age group)
< 2 yrs	8	88.88 %*	1	11.12 %	0	0 %	0	0 %
2-6 yrs	9	42.85 %	8	38.11 %*	2	9.52 %	2	9.52 %
6-12 yrs	12	25 %	13	27.08 %	1	2.08 %*	22	45.84 %
>12 yrs	8	29.62 %	3	11.12 %	1	3.71 %	15	55.55 %*

*recommended

b) Use of fluoridated toothpaste

Fluoridated toothpaste is used, as declared by the parent, by only 44.45 (N=4) of children up to 2 years, 38.09% (N=8) of children between 2 and 6 years, 62.50% (N=30) of children between 6 and 12 years, and 59.25% (N=16) of children over 12 years. The results also show that one third of the parents in all age group, except for those with children under 2 years, are not aware of the presence of the fluoride in the toothpaste used for their children (Table III).

Table III. Use of fluoridated toothpaste, on different age-groups

	YES		NO		DON'T KNOW	
	N	% (of the age group)	N	% (of the age group)	N	% (of the age group)
< 2 yrs	4	44.45 %	5	55.55 %	0	0 %
2-6 yrs	8	38.09 %	7	33.33 %	6	28.58 %
6-12 yrs	30	62.50 %	5	10.41 %	13	27.09 %
>12 yrs	16	59.25 %	4	14.81 %	7	25.93 %

c) The amount of toothpaste used

If for younger age groups the amount of toothpaste used is higher than recommended, with only 22.22% (N=2) of children under 2 years using a rice size, as recommended, and only 52.38% (N=11) of children between 2 and 6 years using a pea size, as recommended, in older age groups use a less amount that recommended, only 27.08% (N=13) of children between 6 and 12 years, respectively 40.74% (N=11) of children older than 12 years putting toothpaste on the entire length of the toothbrush.

Table IV. The amount of toothpaste used, on different age-groups

	Rice size		Pea size		Up to length of the toothbrush		Random	
	N	% (of the age group)	N	% (of the age group)	N	% (of the age group)	N	% (of the age group)
< 2 yrs	2	22.22 %*	7	77.78 %	0	0 %	0	0 %
2-6 yrs	0	0 %	11	52.38 %*	6	28.58 %	4	19.04 %
6-12 yrs	0	0 %	32	66.66 %	13	27.08 %*	3	6.26 %
>12 yrs	0	0 %	11	40.74 %	11	40.74 %*	5	18.52 %

*recommended

DISCUSSIONS

The highest frequency of twice daily tooth brushing for the youngest age group could be explained by the fact that at this age in almost all cases parents have the control of tooth brushing and that they do not leave this task on children. On the other hand, at older age groups even if we see that the contribution of parents is more than that recommended, the frequency of children tooth brushing twice daily is still far from ideal and this might be explained that as children grow older these habits depend also on their will and decision, and that the parents could offer help but not force the child. Regarding the use of fluoridated toothpaste, the percentages of parents not being aware whether their children toothpaste contain fluoride, is alarming and should be an important aspect to be addressed in oral health promotion programs targeted to parents.

CONCLUSIONS

Children oral hygiene habits are less than optimal, as reported by the parents. Although most of the parents are involved in their children basic oral hygiene habits, their oral health education needs improvement in order to get be aware and contribute appropriately to their children oral health, in general, and prevention of early childhood caries, in particular.

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