Relationships between Constanta (Romania) 12-year-old children's oral health status and their parents' socioeconomic status, oral health knowledge and attitudes

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Abstract

Aims: The aims of this study were to determine the oral health status of 12-year-old children from the Constanta District of Romania, to evaluate their parents' socio-economic status (SES), knowledge and attitudes towards children's oral health, and to assess the association between parents' SES, oral health knowledge and attitudes, and the oral health status of their children. *Methods:* In 2007, a random, representative sample of 259 children aged 12 years (125 boys; 134 girls) and one of their parents was drawn from a random sample of schools in the Constanta District. The sampling error was 0.07. The children's oral health was evaluated through a clinical examination, which recorded each child's Decayed Missing Filled Teeth (DMFT), the Dental Health Component of the Index of Orthodontic Treatment Need (DHC-IOTN), and Community Periodontal Index (CPI). The parents' SES, oral health knowledge, and attitudes were evaluated using a questionnaire that included 19 questions. Ethical approval for the study and the consent of the parents were obtained. Statistical analyses were performed. *Results:* Two hundred and thirty-four children and one of their parents were examined (children) and completed the questionnaire (parents). The mean DMFT was 3.15 (±3.06). As far as DHC-IOTN was concerned, 139 (59.4%) children were DHC-IOTN grades of 1 or 2 (no need/slight need of treatment), 76 (32.5%) grade 3 (borderline need), and 19 (8.1%) were grades 4 or 5 (great need of treatment). The children's mean CPI score was 0.18±0.38. The mean parents' oral health knowledge was 16.28 (±5.48), representing 52.52% from the total knowledge level. Parents' oral health knowledge was significantly associated with all SES variables and with the DMFT score of their child (P<0.05). A low DMFT was associated with the use of fluoride toothpaste and with a low frequency of eating sweets (P<0.05). *Conclusions:* Overall, the parents had poor oral health knowledge, which was reflected in a low involvement in the oral health behaviour of their children and associated with a high level of untreated dental caries.

Key Words: Oral Health Status, Oral Health Knowledge, Oral Health Attitudes, Socio-Economic Status, Constanta District

Introduction

There has been an increasing awareness of the association between parents' socio-economic status (SES) and their oral health knowledge, which in turn influences their attitudes towards oral health and also their attitudes to their children's oral health [1].

A number of studies have demonstrated a significant association between family SES and children's oral health [2,3] and others, between family SES and the children's oral health behaviour [4-6].

However, at least two studies have challenged this association between oral health knowledge and behaviour [7,8]. Nevertheless, oral health knowledge is an essential prerequisite for health-related behaviour [9].

Unfortunately, in Romania there have been few surveys to determine children's state of oral health at country level and to look for possible associations between oral health status and the parent's SES and the oral health behaviour. Two studies indicated that in 1992 in Romania the 'national' mean DMFT for 12-year-olds was 4.1 [10] and that in 2000 it was 2.8 [11]. Surveys conducted in this

field confirm the link between SES and oral health, and justify the need to identify the factors responsible for oral health inequalities [12].

Against this background, the aims of the current study were to determine the oral health status of 12-year-old children from Constanta District (urban area), to evaluate their parents' SES, knowledge, and attitudes towards their 12-year-old children's oral health, and to assess the association between parents' SES, oral health knowledge and attitudes, and the oral health status of their children.

Methods

The population and samples

The study population consisted of 12-year-old schoolchildren attending public upper primary schools (grades 5 and 6) in urban areas of Constanta District, Romania, and one of their parents (mother or father). A stratified, three-stage random cluster sample design was applied, using cities as the primary sampling unit.

The sample size was estimated allowing for a caries prevalence of 70% and precision of 0.07. The required sample size calculated was 240. Ten per cent was added in order to allow for non-response. The sample size was therefore 264 children. In the first stage, three cities (Constanta, Mangalia, Basarabi) from a total of nine were randomly selected from the list of towns in Constanta District. In the second stage, 11 schools (from a total of 43) were selected with probability proportional to size from the list of schools in the urban areas of selected cities. In the third stage, 24 schoolchildren were randomly selected from the lists of schoolchildren given by each school selected in the second stage.

The final sample size consisted of 259 children because five children were absent from school on the day of data collection. Data were collected by clinical examination and questionnaire.

Ethical permission

Ethical permission to conduct the study was given by the Ethical Committee of the Medical College of Constanta District. Written consent was obtained from the local public health authorities of the cities included in the study, from the local administration authorities and from the school authorities. The school authorities obtained the written informed consent from the parents of the recruited children.

The clinical examination

The children's oral health status was evaluated by three trained and calibrated examiners, using three clinical indices: the DMFT (Decayed, Missing due to caries and Filled Teeth) Index, the Dental Health Component of the Index of Orthodontic Treatment Need (DHC-IOTN) and the Community Periodontal Index (CPI). The calibration of the examiners was carried out by the principal investigator in the Department of Preventive Dentistry, Faculty of Dentistry, Ovidius University, Constanta. Intra-examiner reliability was assessed by repetition of clinical examinations for 10% of children, after a 10 day-interval. The inter-examiner reliability was achieved by double-blind duplicate examination of 10% of children.

The clinical examination was carried out in the dental offices of the selected schools, using plain mouth mirrors, ball-ended dental probes and sterile gloves, under artificial optimal light. Standard infection-control protocols were followed.

The World Health Organization criteria were used for diagnosis and recording [13] of DMFT and CPI indices. Dental caries were diagnosed at the caries into dentine (D3) threshold, using a visual method without radiography, fibreoptic transillumination or compressed air. A periodontal probe with a 0.5 mm ball tip was used for recording the CPI. Only six index teeth (16, 11, 26, 36, 31 and 46) were examined, in order to avoid scoring the deepened sulci associated with eruption as periodontal pockets. For the same reason, only healthy periodontium (score 0) and bleeding observed directly or by using a mouth mirror after probing (score 1) were recorded. The DHC-IOTN was assessed using the criteria described by Brook and Shaw (1989) [14] and Richmond *et al.* (1994) [15]; the subjects' need for orthodontic treatment was allocated in five grades within the DHC, which have been grouped into grades 1 and 2 representing a slight or no need for treatment, grade 3 representing borderline cases, and grades 4 and 5 representing those in great need of orthodontic treatment.

The clinical data were recorded on computerised individual assessment forms.

The questionnaire

A questionnaire with 19 questions was distributed to one of each child's parents, in order to obtain information on the family SES, parents' general oral health knowledge and attitudes concerning their children's oral health behaviour and status. The parents' participation was voluntary and the questionnaires were distributed on a Friday and collected on the following Monday. They were self-administered and answered at home.

The questionnaire had been designed for use in a previous study [12]. It was written in English and had been translated into Romanian. It had been piloted before its original use in 1993. The questions related to the following.

Family socio-economic status

Three questions regarding three independent variables of SES. The first and second questions related to the mother's and father's educational level and were divided into seven categories of education: 1. primary school; 2. gymnasium; 3. high school; 4. technical school; 5. college/university; 6. post-university studies; 7. other. The third question concerned family income and was divided into four categories of monthly income (as the salary of the higher-earning parent): 1. minimum salary (between 129.79 EUR/month for an unqualified worker and 259.58 EUR/month for a person who had undertaken university studies, as gross values for 2007, in a direct relation to the average per capita GNP) [16]; 2. medium salary (between 200.73 EUR/month for the workers e.g., in the wood industry, excepting furniture, and 905.51 EUR/month e.g., in the financial and banking sector, as gross values for 2007, with an average of 363.42 EUR/month and without any relation to the per capita GNP) [16]; 3. higher salary (more than the medium salary); 4. unemployment.

Parents' oral health knowledge

There were six questions (set out in full in *Table 4*) regarding information about the first permanent molar eruption, caries aetiology and prevention, and periodontal diseases aetiology and prevention. All the oral health knowledge answers (31) were summarised by giving equal weight (1) to each of the correct answers; the mean values were then compared against the oral health attitudes.

Parents' oral health attitudes concerning the children's oral health behaviour and status

Ten questions (set out in full in *Table 5*) covered the toothbrushing habits of children, parents' involvement in children's toothbrushing, frequency of dental attendance during the last year, and children's dietary habits.

Statistical analyses

Statistical analyses were performed using statistical software (SPSS for Windows Version 12; SPSS Inc, Chicago, USA). The intra- and inter-examiner reliability in the oral health assessment form recording and the test–retest reliability of the questionnaire were tested using kappa statistics.

Analysis of variance (ANOVA) was used for testing intra-group variation. Descriptive statistics were used for analysis of SES, clinical indices and proportion of the answers to each question. Pearson coefficient was used for measuring the association between two variables.

Results

Ten per cent of pairs children/parent (n=26) were selected from the study group to test the reliability of the questionnaire and the intra-examiners' reliability of oral health, after a 10-day time interval. The kappa value for test–retest of the questionnaire was 0.83 (almost perfect agreement).

The intra-reliability of examiners regarding the objective oral health indices assessed in the study ranged was 0.97 for DMFT, 0.84 for DHC-IOTN, and 0.76 for CPI. The inter-examiner reliability was higher than 0.76.

The parents of 234 children (90.3%) responded to the questionnaire. Although they gave answers for both parents, all questionnaires were completed by the mothers only. The 25 children who had been clinically examined but whose parents did not return questionnaires were excluded from the analysis of results.

The children's mean DMFT scores are shown in *Table 1*. Their overall mean DMFT was 3.15 (±3.06), without significant differences between boys and girls *(P=0.075)*. The mean DT was 2.79 (±2.97), the mean MT was 0.12 (±0.41), and the mean FT was 0.26 (±0.68), without significant differences between boys and girls *(P>0.05) (Table 1)*. As far as the DHC-IOTN grades were concerned, 139 children (59.4%) were either grade 1 or 2 (no need/slight need of treatment), 76 (32.5%) were grade 3 (borderline need of treatment), and 19 (8.1%) were grades 4 or 5 (in great need of orthodontic treatment) *(Table 2)*. Differences in the gender distribution of the DHC grades were not significant *(P=0.273)*. The mean CPI was 0.18±0.38. The CPI scores *(Table 3)* were 0 (no gingivitis) for 191 children (81.6%) and 1 (gingivitis) for 43 children (18.4%), with higher vales values for girls than for boys *(P=0.048)*.

Table 2. *The DHC-IOTN Grades of 12-Year-Old Children*

DHC-IOTN grade	Frequency (n)	%
No need/slight need	139	59.4
Borderline need	76	32.5
Great need	19	8.1
Total	234	100.0

Table 1. *Mean DMFT Index of 12-Year-Old Children (Mean ±Standard Deviation)*

Gender (n)		DMFT	D	M	F
Girls (n=126)	Mean (±SD)	3.48 (±3.11)	3.06 (±2.99)	0.12 (±0.39)	0.32 (±0.75)
Boys (n=108)	Mean (±SD)	2.77 (±2.98)	2.47 (±2.92)	0.12 (±0.44)	0.19 (±0.59)
	P value (ANOVA)	0.075	0.129	0.981	0.144
Total (n=234)	Mean (±SD)	3.15 (±3.06)	2.79 (±2.97)	0.12 (±0.41)	0.26 (±0.68)

Table 3. *The CPI Scores of 12-Year-Old Children*

CPI score	Frequency (n)	%
0	191	81.6
1	43	18.4
Total	234	100.0

The mean values of the assessed SES variables were as follows: 3.58±1.16 for the mother's educational level, 3.77±1.28 for the father's educational level, and 2.06±0.83 for the monthly family income. The distribution of the SES variables categories is given in *Figures 1, 2* and *3,* showing that only 15 mothers and 17 fathers (less than 10%) received education to less than high-school level *(Figures 1* and *2).* A total of 165 parents (75%) had a monthly income at or above the national average *(Figure 3).*

Figure 1. *Mothers education level*

The oral health knowledge questions and answers are shown in *Table 4.* The distribution of parents' knowledge levels, as the total number of correct answers given, is shown in *Figure 4.* The mean level of parents' oral health knowledge was 16.28 (±5.48), out of a possible total of 31, representing only 52.5% of the possible maximum score.
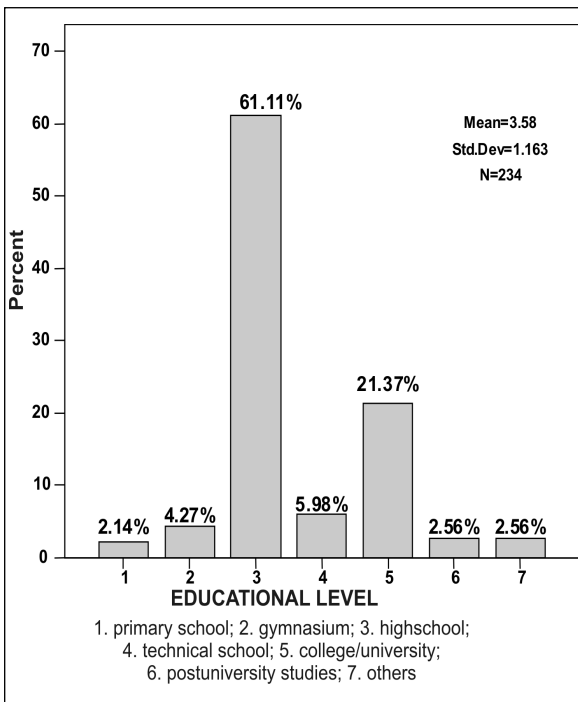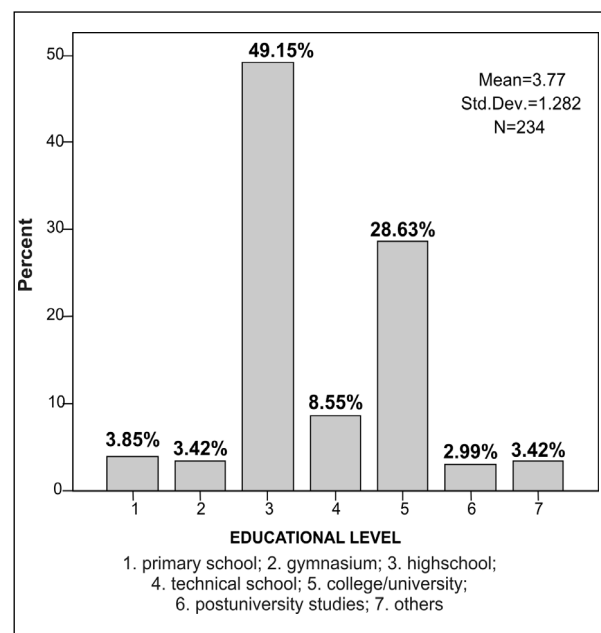

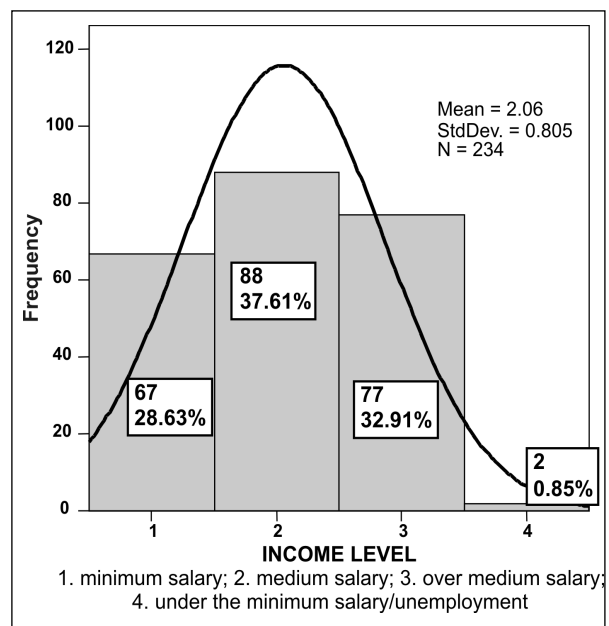***Figure 2.*** *Fathers education level*

Figure 3. *Family monthly income (salary of the higher earning parent)*

Table 4. Oral Health Knowledge Questions and Answers From Parents

Oral health knowledge questions Answers (n)	Correct answers (weight 1)	Number of correct answers marked by parents	% (n) of parents
Q1. What do you know about the six-year molar? (n=234)	3 correct answers: - It is the first permanent tooth to erupt in the mouth - It erupts at age of 6 - It erupts at the back of the temporary molars	0 1 2 3	24.4 (57) 51.7 (121) 16.2 (38) 7.7 (18)
Q2. What do you think produces the dental caries? (n=234)	5 correct answers: - Some general diseases - Bacteria - Sweets - Poor oral hygiene - Time	0 1 2 3 4 5	1.7 (4) 19.2 (45) 26.9 (63) 37.2 (87) 12.8 (30) 2.1 (5)
Q3. How can you prevent dental caries? (n=234)	5 correct answers: - Improve oral hygiene - Use dental floss - Use fluoride - Periodical dental attendance - Avoid sugar consumption	0 1 2 3 4 5	1.7 (4) 17.1 (40) 25.6 (60) 30.3 (71) 17.9 (42) 7.3 (17)
Q4. What do you think produces gingival bleeding? (n=232)	4 correct answers: - Some general diseases - Poor oral hygiene - Bacterial dental plaque - Unhealthy diet	0 1 2 3 4	11.6 (27) 38.6 (90) 39.1 (91) 7.3 (17) 3.4 (8)
Q5. How can you prevent gingival bleeding? (n=234)	3 correct answers: - Improve oral hygiene - Use dental floss - Take medicines	0 1 2 3	16.2 (38) 49.6 (116) 28.2 (66) 6.0 (14)
Q6. Which of the following habits can be detrimental for the health of your teeth? (answer with yes/no) (n=232)	11 correct answers: - Milk with sugar (yes) - Milk without sugar (no) - Fresh vegetables (no) - Sugar (yes) - Coffee with sugar (yes) - Coffee without sugar (no) - Tea with sugar (yes) - Tea without sugar (no) - Sweets/candies (yes) - Smoking (yes) - Fresh fruit (no)	0 1 2 3 4 5 6 7 8 9 10 11	0.9 (2) 5.2 (12) 6.5 (15) 5.6 (13) 4.3 (10) 1.7 (4) 9.1 (21) 9.9 (23) 11.2 (26) 11.6 (27) 15.9 (37) 18.1 (42)

Parents' oral health knowledge was significantly associated with all three SES variables: mother's educational level *(P=0.037)*, father's educational level *(P=0.003)*, and family income *(P=0.002)*.

Of the three oral health status variables, the parents' oral health knowledge was significantly associated only with DMFT Index *(P=0.049)*, but not with DHC-IOTN *(P=0.836)* or CPI indices *(P=0.948)*.

It can be seen *(Table 4)* that the most important facts that parents knew about oral health are the following:

Factors relating to dental caries

- The first permanent molars are normally the first permanent teeth to erupt in the mouth (46.6% of parents answered this question correctly).

- Eating sweets is bad for teeth (81.2% answered correctly).
- Poor oral hygiene contributes to both periodontal and tooth disease (84.2% answered correctly).
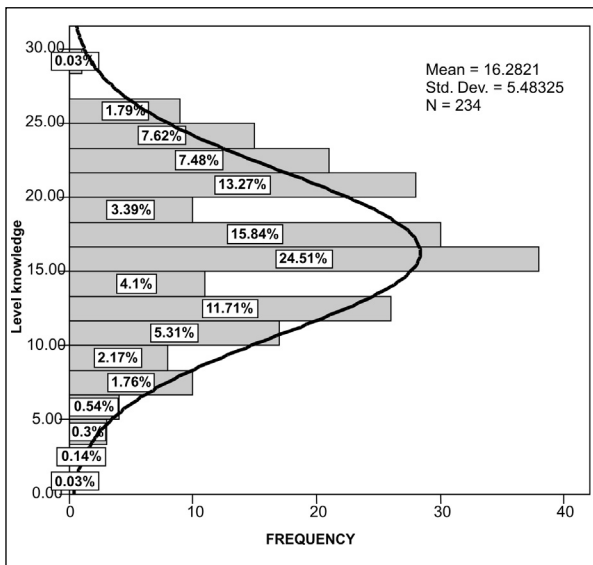- Improving the toothbrushing (90.6%).
- Using fluoride (72.6%).

Figure 4. *Distribution of parent's knowledge levels (by frequency)*

Factors relating to periodontal diseases
- Poor oral hygiene is the most important aetiological factor of gingival bleeding (71.8%).
- Improving toothbrushing is the best way to prevent it (61.5%).

Conversely, the study indicated that parents had little oral health knowledge regarding:
- The role of bacteria in caries aetiology (44%).
- The need to use dental floss to prevent the oral diseases (27.4%).
- The importance of eating fresh vegetables (2.6%) and fresh fruit (3%) for keeping the teeth healthy.

When the parents' general oral health knowledge summary was analysed according to the their oral health attitudes towards the children's oral health behaviour and status, only a few correlations were found *(Table 5)*. A high level of parental knowledge was associated with toothbrushing *(P=0.002)*, using fluoride toothpaste and a mouthwash *(P=0.0001)*, parents' involvement *(P=0.038)* and verifying *(P=0.0001)* children's toothbrushing,

checking children's teeth *(P=0.014)*, and a low frequency of sweet meals *(P=0.032)*.

There were no correlations between parents' oral health knowledge and the frequency of children's toothbrushing *(P=0.835)*, discussions between parents and children about toothbrushing (0.083), and number of the dental visits in the last year *(P=0.262)*.

No significant differences were found in the parents' SES variables and in their answers concerning the oral health knowledge and attitudes.

Discussion

In Romania, only few recent data are available regarding children's oral health status and its association with the oral health knowledge and attitudes of the parents towards their children's oral health. The present study aimed to evaluate these data from representative samples of 12-year-old children who live in a relatively affluent area of Romania.

Despite substantial improvements in oral health in other eastern European countries [17], in Romania a long transition period from dictatorship has been characterised by privatisation of the oral health care services. As a result, very little emphasis has been given to the preventive and conservative oral health care at both individual and community level. Studies in the Constanta District in 2001 indicated a mean DMFT score for 12 year-old children from this urban area of 7.45 [18].

The present study showed that, although there has been a further improvement in the mean DMFT score for 12-year-olds in the Constanta District after six years of the National Programme P.N.I.5 in Constanta, involving weekly mouth-rinsing with Fluorostom (National Institute for Chemical–Pharmaceutical Research and Development, ICCF, Bucharest) [19], it has still not reached the World Health Organization goal for 2000 of a mean DMFT score for 12-year-olds of less than 3.0 [20].

Regarding the other oral health indices assessed in this study, 32.5% (n=76) of children have a moderate need and 8.1% (n=19) have a great need for orthodontic treatment. The majority of children did not appear to have periodontal health problems. However, the finding that 81.6% were periodontally healthy needs to be treated with caution, as no attempt was made to probe for pockets or to assess attachment loss.

On the other hand, the reduced mean value of parents' general oral health knowledge level suggests the need for oral health educational programmes for parents as well as for children.

Table 5. *Correlations Between Parents' Oral Health Knowledge and Attitude Towards Their Children's Oral Health, the Children's Oral Health Status and Parents' General Oral Health Knowledge*

Parents' oral health knowledge and attitudes towards		Children's oral health status children's oral health health			Parents' oral health knowledge
		DMFT	DHC-IOTN	CPI	knowledge
Q1. Does your child brush his teeth?					
0 = no/do not know (1.3%; n=3)	Mean (±S.D.)	5.00±3.00	1.00 (± 0.00)	0.00 (±0.00)	6.66 (±4.16)
1 = yes (98.7%; n=231)	Mean (±S.D.)	3.13±3.06	1.49±0.64	0.19±0.39	16.40±5.39
	P	0.295	0.187	0.410	0.002**
Q2. Does your child use a fluoride toothpaste?					
0 = do not know (no answer) (5.6%; n=13)	Mean (±S.D.)	4.92±2.36	1.38±0.65	0.31±0.48	12.76±6.41
1 = no (26.9%; n=63)	Mean (±S.D.)	3.70±3.01	1.42±0.68	0.17±0.38	14.85±5.35
2 = yes (67.5%; n=158)	Mean (±S.D.)	2.79±3.07	1.51±0.62	0.18±0.38	17.13±5.25
	P	0.003**	0.274	0.450	0.0001**
Q3. Does your child use a mouthwash?					
0 = no/do not know (85.9%; n=201)	Mean (±S.D.)	3.12±3.07	1.47±0.64	0.17±0.38	15.67±5.43
1 = yes (14.1%; n=33)	Mean (±S.D.)	3.36±3.07	1.57±0.66	0.24±0.43	19.96±4.26
	P	0.67	0.39	0.35	0.00**
Q4. How often does your child clean his teeth?					
0 = do not know (1.7%; n=4)	Mean (±S.D.)	6.00±6.16	1.00±0.00	0.25±0.50	7.00±7.39
1=3 times/day (23.9%; n=56)	Mean (±S.D.)	2.39±3.12	1.62±0.70	0.16±0.37	17.28±5.71
2 = 2 times/day (35.9%; n=84)	Mean (±S.D.)	3.21±3.08	1.36±0.53	0.17±0.37	16.38±5.09
3 = once a day (29.5%; n=69)	Mean (±S.D.)	3.33±2.66	1.56±0.69	0.23±0.42	16.00±5.34
4 = 1-2 times/week (6.8%; n=16)	Mean (±S.D.)	4.13±3.07	1.43±0.72	0.19±0.40	15.81±5.50
5 = seldom/never (2.1%; n=5)	Mean (±S.D.)	2.80±3.34	1.40±0.54	0.00±0.00	16.20±4.54
	P	0.222	0.894	0.810	0.835
Q5. How often do you help your child to clean his teeth?					
1 = once a day (5.6%; n=13)	Mean (±S.D.)	3.31±3.96	1.53±0.77	0.46±0.51	13.00±6.78
2 = once a week (1.3%; n=3)	Mean (±S.D.)	3.00±1.00	2.00±1.00	0.00±0.00	16.33±8.38
3 = once a month (1.7%; n=4)	Mean (±S.D.)	2.00±2.30	1.75±0.50	0.00±0.00	16.75±8.57
4 = seldom/never (91.5%; n=214)	Mean (±S.D.)	3.17±3.05	1.47±0.63	0.17±0.37	16.47±5.28
	Sig. (2-tailed)	0.989	0.391	0.036*	0.038*
Q6. How often do you verify your child's teeth after toothbrushing?					
1 = once a day (28.2%; n=66)	Mean (±S.D.)	3.08±3.09	1.59±0.67	0.21±0.41	17.12±4.89
2 = once a week (15.8%; n=37)	Mean (±S.D.)	3.11±3.03	1.54±0.64	0.22±0.41	19.94±4.40
3 = once a month (7.3%; n=17)	Mean (±S.D.)	4.24±4.36	1.47±0.51	0.18±0.39	17.17±5.13
4 = seldom/never (48.7%; n=114)	Mean (±S.D.)	3.05±2.84	1.41±0.63	0.16±0.36	14.47±5.48
	P	0.994	0.060	0.312	0.0001**

Q6. How often do you verify your child's teeth after toothbrushing?					
1 = once a day (28.2%; n=66)	Mean (±S.D.)	3.08±3.09	1.59±0.67	0.21±0.41	17.12±4.89
2 = once a week (15.8%; n=37)	Mean (±S.D.)	3.11±3.03	1.54±0.64	0.22±0.41	19.94±4.40
3 = once a month (7.3%; n=17)	Mean (±S.D.)	4.24±4.36	1.47±0.51	0.18±0.39	17.17±5.13
4 = seldom/never (48.7%; n=114)	Mean (±S.D.)	3.05±2.84	1.41±0.63	0.16±0.36	14.47±5.48
	P	0.994	0.060	0.312	0.0001**
Q7. How often do you discuss with your child about toothbrushing?					
1 = once a day (39.7%; n=93)	Mean (±S.D.)	3.06±3.12	1.59±0.66	0.15±0.36	16.50±5.83
2 = once a week (20.5%; n=48)	Mean (±S.D.)	3.65±3.04	1.35±0.52	0.25±0.43	17.22±4.47
3 = once a month (10.3%; n=24)	Mean (±S.D.)	2.83±3.31	1.54±0.65	0.08±0.28	17.54±4.59
4 = very rarely/never (29.5%; n=69)	Mean (±S.D.)	3.04±2.95	1.42±0.67	0.22±0.41	14.88±5.72
	P	0.806	0.157	0.479	0.083
Q8. How often do you personally control your child's teeth?					
1 = daily (24.4%; n=57)	Mean (±S.D.)	2.47±2.70	1.50±0.60	0.14±0.35	17.05±5.48
2 = weekly (27.4%; n=64)	Mean (±S.D.)	3.36±3.10	1.57±0.70	0.22±0.41	16.92±5.85
3 = monthly (9.4%; n=22)	Mean (±S.D.)	4.59±3.88	1.59±0.59	0.23±0.42	16.63±5.39
4 = 2-4 times/year (8.1%; n=19)	Mean (±S.D.)	4.11±3.60	1.26±0.56	0.11±0.31	15.26±4.78
5 = only when the child complains about tooth pain (23.9%; n=56)	Mean (±S.D.)	2.91±2.86	1.46±0.65	0.21±0.41	15.92±4.81
6 = never (6.8%; n=16)	Mean (±S.D.)	2.50±2.22	1.25±0.57	0.13±0.34	12.93±6.30
	P	0.766	0.114	0.858	0.014*
Q9. How often did you go with your child to the dentist in the last year?					
0 = never (13.2%; n=31)	Mean (±S.D.)	3.35±2.77	1.38±0.55	0.19±0.40	14.64±5.22
1 = 1-2 times (60.3%; n=141)	Mean (±S.D.)	2.96±2.90	1.42±0.61	0.16±0.36	16.60±5.35
2 = 3-4 times (6.4%; n=15)	Mean (±S.D.)	4.80±3.40	1.46±0.63	0.27±0.45	15.53±8.21
3>4 times (11.5%; n=27)	Mean (±S.D.)	2.70±3.47	1.88±0.69	0.22±0.42	17.00±5.06
	P	0.908	0.001**	0.485	0.262
Q10. How often does your child eat sweets (including chocolate, sugared chewing-gum, cookies, biscuits, ice cream, jam, raisins, sweet breakfast)?					
0 = once a week (5.6%; n=13)	Mean (±S.D.)	0.15±0.55	1.38±0.50	0.15±0.37	18.76±5.10
1 = 2-3 times/week (23.9%; n=56)	Mean (±S.D.)	0.68±	1.51±0.66	0.07±0.26	17.41±5.35
2 = once a day (27.4%; n=64)	Mean (±S.D.)	2.39±2.03	1.60±0.70	0.08±0.27	15.43±5.99
3=2 times/day (43.2%; n=101)	Mean (±S.D.)	5.40±2.90	1.40±0.60	0.32±0.46	15.87±5.13
	P	0.000**	0.435	0.000**	0.032*

Correlation is significant at the 0.05 level (two-tailed).

** Correlation is significant at the 0.01 level (two-tailed).

It can be considered that the most important facts that parents should know about oral health are the role of the bacteria in caries aetiology, the need to use dental floss to prevent oral diseases, and the importance of eating fresh vegetables and fresh fruit.

Regarding the correlations between the oral health status and oral health attitudes, in this study healthy oral hygiene attitudes were associated with better oral health knowledge; a low DMFT Index was significantly associated with use of fluoride toothpaste $(P=0.003)$ and with a low frequency of eating sweets $(P<0.01)$. A high DHC-IOTN grade was associated with more than four dental visits in the last year $(P=0.001)$ and a CPI score of 0 was associated with the parents' involvement in children's toothbrushing $(P=0.036)$ and a low frequency of eating sweet foods $(P<0.01)$. These results are consistent with those from previous Romanian studies [12].

The results of this study demonstrate that many parents' oral health knowledge level is rather poor and non-specific. This finding is reflected in a low involvement in the oral health behaviour of their children and is associated with a high level of untreated dental caries. This is somewhat disappointing because the answers that the parents gave suggest that most were relatively well educated (to high-school level or above) and had at least medium salary.

Given the children's dependence on their parents in choosing, buying and using oral hygiene products and also in using oral health care services, it is important to increase parents' oral health knowledge. This could be achieved through specific educational programmes as a first important step to improving their children's oral health behaviour and oral health status.

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