Knowledge, practices and constraints to the practice of preventive measures against dental caries among adolescents residing at Kinsenso in the city of Kinshasa

Connaissances, pratiques et contraintes liées à la pratique de mesures préventives contre la carie dentaire chez les adolescents résidant à Kinsenso dans la ville de Kinshasa

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Résumé

Contexte et objectifs. La connaissance des facteurs de risque de la carie dentaire reste très limitée. La présente étude avait pour objectif d'évaluer le niveau de connaissance des adolescents sur la carie dentaire. *Méthodes*. Etude descriptive transversale réalisée chez les adolescents recrutés aléatoirement dans 17 quartiers de Kinsenso à Kinshasa, entre novembre 2016 et janvier 2017. Un questionnaire ad hoc a été administré. Les associations ont été évaluées en utilisant le test chi carré. *Résultats*. 845 adolescents ont été interviewés. 88,3% ont entendu parler de la carie dentaire; 79,3% connaissaient les causes; et 69,6% savaient comment la prévenir. Tous les participants brossaient les dents le matin; 18,3% avant de dormir et 8,5% seulement après le repas; et 52,1% utilisaient le dentifrice quotidiennement; 8,4% utilisaient la soie dentaire; et seulement 10,9% avaient consulté un dentiste. Pour les participants, le faible revenu familial (100%) et le manque d'information (47,8%) ont constitué les principales contraintes liées à la pratique des mesures préventives. 81,7% ont cité le brossage régulier des dents, surtout après les repas et avant de dormir. *Conclusion*. La majorité des participants avaient une bonne connaissance de la carie dentaire, mais la pratique des mesures préventives est paradoxalement faible ; et beaucoup d'adolescents étaient confrontés à des contraintes qui contribuent à l'échec de la pratique des mesures préventives.

Mots-clés: Carie dentaire, connaissances, pratiques, contraintes, mesures préventives, adolescents

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Summary

Context and objectives. Knowledge of risk factors for dental caries remains very limited. The aim of this study was to assess adolescents' knowledge of dental caries and its preventive measures. *Methods*. A cross-sectional descriptive study conducted among randomly recruited adolescents in 17 Kinsenso neighborhoods in the city of Kinshasa, capital of the Democratic Republic of Congo, between November 2016 and January 2017. A questionnaire containing information on socio-demographic data, knowledge of dental caries, the practice of preventive measures and the constraints of these measures has been administered. The associations were evaluated using the chi-square test. *Results*. 845 adolescents were interviewed. 88.3% confessed to hearing about dental caries, 79.3% knew the causes of dental caries; and 69.6% knew how to prevent dental caries. All participants brushed their teeth in the morning; 18.3% brushed their teeth before sleeping and only 8.5% brushed their teeth after meals; 52.1% used toothpaste daily; 8.4% used flossing before brushing their teeth; and only 10.9% had consulted a dentist. For participants, the low family income (100%) and the lack of information (47.8%) on preventive measures were the main constraints related to the practice of preventive measures against dental caries. 81.7% cited regular brushing of teeth, especially after meals and before sleep as a constraint related to the practice of preventive measures against dental caries. *Conclusion*. The majority of participants had a good knowledge of dental caries, but the practice of preventive measures against dental caries is paradoxically low; and many teens were faced with constraints that contribute to the failure of the practice of preventive measures against dental caries.

Keywords: Dental caries, knowledge, practices, constraints, preventive measures, adolescents

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Introduction

Dental caries is one of the most common infectious diseases in the world where bacteria damage the hard structure of the tooth, causing pain, tooth loss and infection. It is responsible for a high rate of morbidity among the population and is associated with a reduced quality of life.

The prevalence of dental caries among the general population has been linked to socio-economic and demographic conditions, as well as behavioral aspects (1). It appears that the main reasons for the global increase are unhealthy dietary habits, and inadequate oral hygiene practices (2). Dental caries remains a major public health problem affecting adult and children worldwide. It was ranked by experts of the world health organization as the fourth global scourge behind cancer, heart disease and AIDS. Most low-income people do not have access to dental care and most dentists are concentrated in urban centers thus limiting access to dental services for people living in popular rural areas. Sixty to ninety percent of children around the world suffered from dental caries that could be avoided by the acquisition of a good oral hygiene, always preferable to curative care (3). In the Democratic Republic of Congo (DRC), the dental sector is a forgotten area of the national health policy as shown by the following facts: no national survey on oral health has ever been conducted; oral disease awareness campaigns among adolescents are rare; access to oral health services is limited due to the low number of dentists and high cost of dental care. In addition, the changing living conditions have made matters worse as the growing consumption of sugars and a lack of significant exposure to fluoride observed among adolescents in the DRC may contribute to the poor dental health. The present study aimed to assess the knowledge, practices, and constraints to the practice of preventive measures against dental caries among adolescents residing in Kinsenso.

Methods

Design, sampling and study setting

The present study is a descriptive cross-sectional survey involving 845 adolescents aged 10 to 19 years residing in Kinsenso in the city of Kinshasa, DRC. The study was conducted from November 2016 to January 2017 and used a random cluster sampling technique incorporating 17 clusters (wards). The required sample size needed for this study was computed using the following equation:

$$n = z^2 \times c \times \frac{p \times q}{d^2}$$

where “n” was the sample size, “z” was standard normal deviation at 1.96 which corresponds to a confidence level of 95%, “C” cluster effect was (2), “P” was 0.5 (as the prevalence of knowledge of oral health in this community was unknown), “q” was 1 – p (0.5), and “d” was the standard error (0.05).

The calculation of the sample size was based on exactly the same principle for simple random sampling, but a cluster factor "C" was introduced into the formula and it increased the sample size to keep the level of precision used in the formula. The sample size was 768 adolescents + 10% for non-respondents (approximately 845 adolescents). So the total sample size (n) to be used in this study was: n+n10% = 768+76.8 = 844.8≅ 845.

Inclusion criteria were as follows:

- being adolescents aged 10 to 19 residing in Kinsenso in the city of Kinshasa;
- willingness to freely participate in the survey;
- adolescents and parents/guardians of underage adolescents that gave consent.

Exclusion criteria were as follows:

- adolescents aged 10 to 19 who are not residing in Kinsenso in the city of Kinshasa;
- adolescents and parents/guardians of adolescents who did not have the will to freely participate in the survey and give consent.

To select 845 participants, sampling interval was calculated between households, which were then arranged in a given order. One household was finally selected at random between 1 and N; and the household corresponding to that number was considered as the starting point in the survey. The selection of the following household was done by using the sampling interval I (1+I=N); and adolescents chosen in households formed the sample. For each selected household, only one

adolescent was randomly selected in case there were more than one adolescent in a household.
The questionnaire was translated into French and Lingala, which are the common languages used in the area of the study.

Statistical analyses

Data collected were first manually checked for the completeness of answers and then transferred into SPSS version 20.0 for analysis. Frequency, percentage, histograms were made from bivariate analysis. Associations between level of knowledge on dental caries, the practices of preventive measures of dental caries, the constraints to the practice of preventive measures for dental caries and the socio-demographic factors were assessed using chi-square test; and p-value of < 0.05 was considered significant.
The study was approved by Institutional Review Board from Kenya (Mount Kenya University) and the DRC (Ministry of Public Health). Consents were obtained from the adolescents aged 18 to 19 years or from the Children's parents or guardians for participants aged 10 to 17 years. All information collected was treated with utmost confidentiality.

Results

Characteristics of respondents

As shown in Table 1, the respondents were aged 10 to 19 with the majority aged 10 to 14 (51.7%); 53.1% were male; 62.0% were in secondary school. Furthermore, mothers of the majority of the respondents were self-employed (56.9%) and fathers were employed (47.5%). The majority of respondents reached secondary school, and the proportion of employed fathers was 2.4 times higher than the proportion of employed mothers (47.5% vs 19.6%).

Table 1. Socio-demographic characteristics of the respondents

Characteristics	N=845	%
Age (years)		
10 - 14	437	51.7
15 - 19	408	48.3
Gender		
Male	449	53.1
Female	396	46.9
Education level		
Primary	276	32.7
Secondary	524	62.0
University	45	5.3
Main socioeconomic status of the mother		
Employed	166	19.6
Self-employed	481	56.9
No employed	198	23.4
Main socioeconomic status of the father		
Employed	401	47.5
Self-employed	338	40.0
No employed	106	12.5

Adolescents' knowledge on dental caries

Three measurements based on knowledge questions were used to assess the level of knowledge. Table 2 indicated that 88.3% (95% CI: 85.9-90.4%) heard about dental caries whereas 79.3% (95% CI: 76.4 – 81.9%) knew the causes of dental caries.

Table 2. Respondents' level of knowledge on dental caries based on the three measures

Knowledge questions	N=845	%	95% CI
Have you ever heard about dental caries?			
Yes	746	88.3	85.9-90.4
No	99	11.7	
Do you know the causes of dental caries?			
Yes	670	79.3	76.4-81.9
No	175	20.7	
Do you know how to prevent dental caries?			
Yes	588	69.6	66.4-72.7
No	257	30.4	

A composite measure of knowledge was developed from the three measures. The level of knowledge was rated from 0 to 3, where 0 = Very Poor (no knowledge on the three items), 1 = Poor (knowledge on any one), 2 = Good (knowledge on any two), and 3 = Very Good (knowledge on all the three). Table 3 indicated that a good knowledge on dental caries was shared by a total of 79.8% of respondents (10.7% with good knowledge and 69.1% with very good knowledge).

Table 3. Respondents' level of knowledge on dental caries based on composite score of the three measures

Level of knowledge	N=845	%	95% CI
Very poor	99	11.7	9.6-14.1
Poor	72	8.5	6.7-10.6
Good	90	10.7	8.7-12.9
Very good	584	69.1	65.9-72.2

Figure 1 shows that respondents had various ways of defining dental caries. 84.6% of respondents defined dental caries as a tooth disease whereas 3.2% linked it to pain and bleeding in the mouth. However, 11.7% of respondents didn't have any clue on what dental caries was.

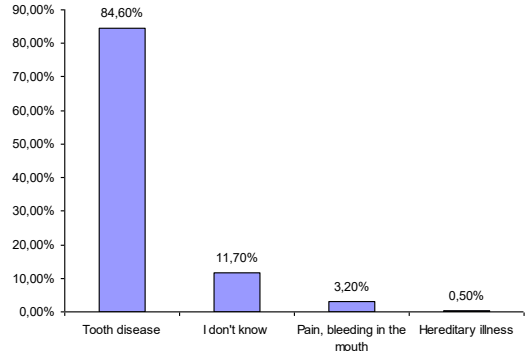

Figure 1. Respondents' knowledge on the definition of dental caries

Figure 2 depicts responses of the participants about the causes of dental caries. For 47.8% of respondents, dental caries is caused by both poor mouth hygiene and excessive consumption of sweet products whereas 28.6% of the respondents incriminated excessive consumption of sweet products as the only cause. 20.7% of the respondents did not know the causes of dental caries.

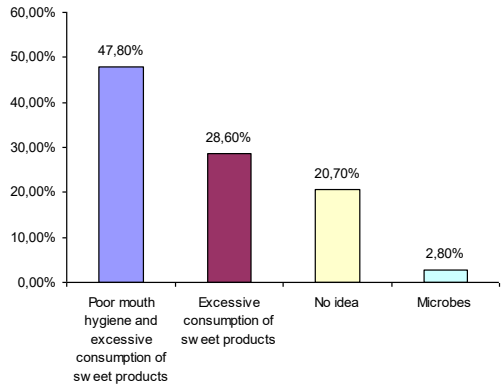

Figure 2. Respondents' knowledge on the causes of dental caries

Table 4 shows that 30.8% of the respondents heard about dental caries from teachers alone, 16.3% from parents, 13.1% from both teachers and parents, and 11.7% from nobody. About 30.4% of respondents did not know the preventive measures of dental caries, 19.6% of the respondents prevented dental caries by brushing teeth, and 14.6% of the respondents prevented dental caries by not eating too much sweet.

Table 4. Respondents' results on the source of information on dental caries and Reported preventive measures on dental caries

Source of information questions	N=845	%
Teachers alone	260	30.8
Parents alone	138	16.3
Teachers and Parents	111	13.1
Nobody	99	11.7
Friends alone	95	11.2
Teachers and Friends	44	5.2
Teachers, Parents and Dentists	39	4.6
Dentists alone	31	3.7
Teachers and dentists	16	1.9
Teachers, parent and friends	8	0.9
Parents and friends	4	0.5
list the preventive measures of dental caries you know	N=845	%
Do not eat too many sweets	123	14.6
Brushing teeth	166	19.6
Daily brushing with toothpaste	75	8.9
Do not eat too much sugar and	113	13.4

Source of information questions	N=845	%
brush teeth		
I don't know	257	30.4
Avoid eating too much sugars and brushing teeth with toothpaste 3 times a day	55	6.5
Do not use same brush with person who has dental caries	20	2.4
Avoid taking cold water and sweets	12	1.4
Avoid eating too much meats	7	0.8
Avoid over-taking sweet products and brushing teeth after meals	13	1.5
Avoid taking cold water, brushing your teeth and avoiding eating sweet products	4	0.5

Knowledge on dental caries was associated with age ($p = 0.000$), highest level of education of the adolescent ($p < 0.0001$).

Adolescents aged 15 to 19 years had good knowledge on dental caries as compared to adolescents aged 10 to 14 years. All the respondents who attended university and many of those who attended secondary had good knowledge on dental caries as compared with those who attended primary school. It was found that knowledge increased with age and the level of education of the adolescent.

Practices of preventive measures against dental caries

Seven measurements were used to assess the practices of preventive measures against dental caries: whether respondent brushes teeth in the morning, after meal and before going to bed; again whether the respondent uses toothpaste for brushing teeth, has the habit of consuming sugar products, flosses before brushing teeth and has ever visited a dentist. Table 6 indicated that all the respondents have reported of brushing their teeth in the morning; 8.5% (95% CI: 6.7 - 10.6%) agreed of brushing their teeth after meal; 18.3% (95% CI: 15.8 – 21.1%) said they brush teeth before going to bed. It's also shown that, 52.1% (95% CI: 48.6 – 55.1%) of the respondents used toothpaste daily; all the respondents agreed of having the habit of consuming sugar products; 8.4% (95% CI: 6.6 – 10.5%) agreed of flossing before brushing their teeth; and only 10.9% (95% CI: 8.9 – 13.2%) have already visited a dentist.

Table 6. Respondents' practices of preventive measures against dental caries

Practices questions	N=845	%	95% CI
Tooth brushing in the morning			
Yes	845	100	
No	0	0	
Tooth brushing after meal			
Yes	72	8.5	6.7-10.6
No	773	91.5	
Tooth brushing before going to bed			
Yes	155	18.3	15.8-21.1
No	690	81.7	
Do you use toothpaste daily to brush your teeth?			
Yes	440	52.1	48.6-55.1
No	405	47.9	
Do you floss before brushing your teeth?			
Yes	71	8.4	6.6-10.5
No	774	91.6	
Have you ever visited a dentist?			
Yes	92	10.9	8.9-13.2
No	753	89.1	

A composite measure of practices was developed from the six measures. The practice of preventive measures against dental caries was rated from 0 to 1, where 0 = Poor, 1 = Good. Table 5 indicated that 27.3% (95% CI: 24.4 – 30.5) had good practices of preventive measures of dental caries.

Table 7. Respondents' practices on preventive measures against dental caries based on composite score of the seven measures

Practices of preventive measures against dental caries	%	95% CI
Poor (n = 614)	72.7	
Good (n = 231)	27.3	24. 4 – 30.5

Other aspects of practices were assessed. Figure 3 shows that, 52.1% of the respondents brushed teeth with toothpaste, 26.4% of the participants

used only water, and 13.4% of the respondents brushed teeth with ember.

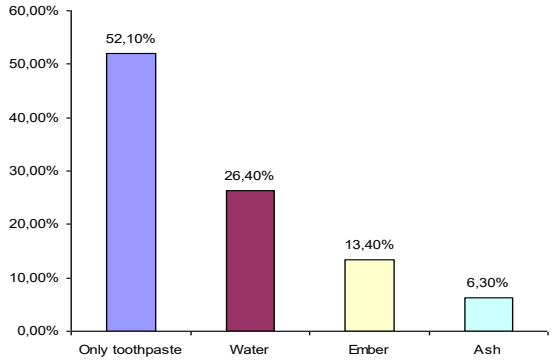

Figure 3. Respondents' practice on other aspects of preventive measures against dental caries (If you do not use toothpaste every day, what do you often use in place of toothpaste)

As for the frequency of the replacement of the toothbruch, 65.3% of the respondents reported that they change the toothbrush only if it is damaged whereas 17.8% of respondents change the toothbrush every 6 months (Figure 4).

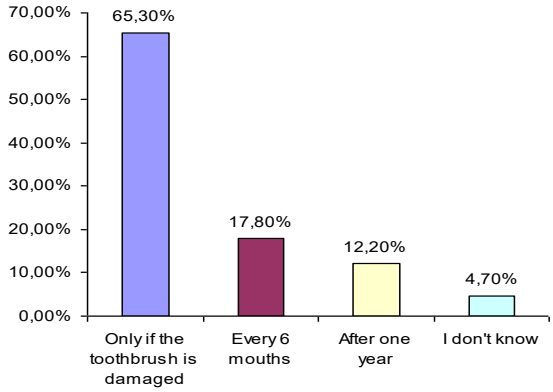

Figure 4. Respondents' practice on other aspects of preventive measures against dental caries (After how often should you change your toothbrush?)

About 72.9% of the respondents reported of brushing their teeth less than 3 minutes; 41.9% of the respondents consumed sugar products 2 to 4 times per week; 49.7% of the respondents had no fixed time of consuming sugar products; 10.9% visit the dentist because of dental pain and dental extraction.

Table 8. Respondents' practice on other aspects of preventive measures against dental caries

Questions on other aspects of practice of preventive measures against dental caries	N=845	%
How long do you usually brush your teeth?		
Less than 3 minutes	616	72.9
3 minutes and more	229	27.1
How often do you eat sugar products?		
Every day	261	30.9
once per week	4	0.5
2 to 4 times per week	354	41.9
4 to 6 times per week	185	21.9
Rarely	41	4.9
At what time of the day do you eat them?		
Morning	57	6.7
Afternoon	109	12.9
No fixed time	420	49.7
Morning and Afternoon	224	26.5
Morning and evening	35	4.1
Reasons for visiting and not visiting a dentist		
Dental pain and dental extraction	92	10.9
I do not have dental caries	753	89.1

The practice of preventive measures against dental caries was associated with age ($p = 0.000$), adolescent highest level of education ($p = 0.000$). The practice increased with age. Adolescents aged 15 to 19 years reported of having good practices of preventive measures against dental caries as compare with 10-14 years; and adolescents who attended secondary school and university had good practices of preventive measures against dental caries as compare with those who attended primary school.

Constraints to the practices of preventive measures against dental caries

Three measurements were used to assess the constraints to the practice of preventive measures against dental caries: i) family low income; ii) lack of information on preventive measures against dental caries; and iii) regular tooth brushing especially after meals and before sleeping. All respondents agreed that the family low income was a constraint to the practice of preventive measures against dental caries. The

lack of information on preventive measures against dental caries and regular tooth brushing especially after meals and before sleeping were constraints to the practice of measures to prevent dental caries for 47.8% (95% CI: 44.4 – 51.2%) and 81.7% (95 % CI: 78.9 – 84.2) of respondents as shown in the Table 10.

Table 10. Respondents' constraints to the practice of preventive measures against dental caries

List the factors that contribute to the failure of the practice of preventive measures against dental caries?	N=845	%	95% CI
Family low income			
Yes	845	100	
No	0	0	
Lack of information on preventive measures against dental caries			
Yes	404	47.8	44.4-51.2
No	441	52.2	
Regular tooth brushing, especially after meals and before sleeping			
Yes	690	81.7	78.9–84.2
No	155	18.3	

A composite measure of constraints to the practice of preventive measures against dental caries was developed from the five measures. The constraints were rated from 0 to 1, where 0 = yes and 1 = no. Out of 845 respondents, 84.6% (95% CI: 82.0 – 87.0%) agreed of facing constraints that contribute to the failure of the practice of preventive measures against dental caries; and 15.4% of the respondents faced no constraint as shown in the table 7.

Table 11. Responses on constraints to the practice of preventive measures against dental caries based on composite score of the five measures

Constraints to the practice of preventive measures against dental caries	N=845	%	95% CI
Yes	715	84.6	82.0-87.0%
No	130	15.4	

The constraints to the practice of preventive measures against dental caries was significantly associated with age ($p < 0.0001$), adolescent highest level of education. Many adolescents aged 10 to 14 years faced constraints to the practice of preventive measures of dental caries as compared to those who were 15 to 19 years; and many respondents who were in primary and secondary school faced constraints to the practice of preventive measures against dental caries as compared to those who were in university.

Discussion

This study presented a comprehensive overview on knowledge, practices and constraints to the practice of preventive measures against dental caries among adolescents aged 10 to 19 at Kinsenso in the city of Kinshasa, in the DRC.

Concerning the knowledge on dental caries, it is very encouraging and satisfactory to know that majority of the participants (79.8%) had good knowledge on dental caries. This was higher than in most studies reported in India, Saudi Arabia, and in Nigeria (4, 5, 6).

In general, males had good knowledge on dental caries as compared to females. While this observation is in agreement with the study conducted in India (7), it does not corroborate the data reported by Kamran *et al* in Iran (8). This difference may be explained by the facts that the number of male respondents was higher in addition to males being older than females in the present study.

Adolescent's level of education and socioeconomic status of both parents played a major role on knowledge on dental caries in this study as reported by most studies conducted in India (9) and in Nigeria (6), where educated adolescents from families with good income scored more in knowledge. This finding highlights the importance and role of education in oral health.

Regarding the practices of preventive measures against dental caries, the observation that only

27.3% of the participants had good practices of preventive measures against dental caries should s*et al*arm bells ringing. This is contrary to most studies conducted in Nigeria (10), in Kuwait (11), and in India (12) where higher proportions have been reported. This different may be explained by the fact that many respondents faced constraints that contribute to the failure of the practices of preventive measures against dental. Moreover, the low proportion of respondents with tooth brushing habits found in the present study is in contradiction with reports from New Zealand (13) and Iran (14). Only 10.9% of the participants had already visited a dentist which is slightly similar with previous studies conducted among adolescents in Kenya (15) and in Iran (16). It turns out adolescents visit dental clinics only when they have toothache or when they want dentists to extract their damaged teeth, but not for dental checkup. This might be explained by the higher cost of dental attendance and low income of the parents in these countries. In general, participants aged 15 to 19 years reported having good practices of preventive measures against dental caries as compared to 10-14 year-old participants. Indeed, practices of preventive measures against dental caries increased with age due to the increase in knowledge and awareness in health issues. Females had good practices of preventive measures against dental caries as compared with males, which is in agreement with other studies (8). This observation may be explained on the basis that females usually care more about their body and appearance. Level of education of adolescents and socioeconomic status of their parents played a major role in the practices of preventive measures against dental caries, which is similar to previous reports from Iran (14).

Concerning the constraints to the practices of preventive measures against dental caries, the majority of the participants (63.7%) faced constraints that contribute to the failure of the practices of preventive measures against dental caries. In fact, family low income was the incriminated constraint for all the respondents. These findings are similar to those from a study conducted in Nepal (17). Age of the respondents, gender, adolescent highest level of education, and the main socioeconomic status of the parents were associated to constraints to the practice of preventive measures against dental caries. These observations agree with those from a previous study conducted among adolescents in Iran where the low family income was a constraint to the practices of preventive measures agaisnt dental caries (14). This implies that knowledge itself is not enough for adolescents to practice the preventive measures against dental caries; other factors should be considered, such as socioeconomic status of children's parents, and awareness on the practice of preventive measures against dental caries.

Weakness and strength of the study

The limitations of the present study are related to the nature of a cross-sectional study. Beyond these limitations, the present study highlights the level of knowledge of adolescents on dental caries and its preventive measures. The results can be used by public health agencies to develop appropriate interventions or actions on oral health among adolescents residing in Kinsenso in Kinshasa, DRC.

Conflict of interest

No links of interest

Authors' contributions

Study subject design, article writing, survey execution, and data analysis were done by Junior Abedi Omeno. Esther Ndonga, Eliabe Seroney Some, and Gerard Eloko coordinated the study. All authors approved the final and revised version of the article.

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Table 5. Cross tabulation of socio-demographic factors and knowledge on dental caries based on the composite score

	Knowledge on dental caries		X^2	df	P
	Poor	Good			
	%	%			
Age (years)					
10 – 14 (n = 437)	164 (38.2%)	270 (61.8%)	181.233	1	<0.0001
15 - 19 (n = 408)	4 (1.0%)	404 (99.0%)			
Gender					
Male (n = 449)	75 (16.7%)	374 (83.3%)	7.408	1	0.006
Female (n = 396)	96 (24.2%)	300 (75.8%)			
Adolescent highest level of education					
Primary (n = 276)	133 (48.2%)	143 (51.8%)	199.744	2	<0.0001
Secondary (n = 524)	38 (7.3%)	486 (92.7%)			
University (n = 45)	0 (0.0%)	45 (64.4%)			
Main socioeconomic status of the mother					
Employed (n = 166)	12 (7.2%)	154 (92.8%)	55.386	2	<0.0001
Self-employed (n = 484)	85 (17.7%)	396 (82.3%)			
No employed (n = 198)	74 (37.4%)	124 (62.6%)			
Main socioeconomic status of the father					
Employed (n = 401)	52 (13.0%)	349 (87.0%)	33.302	2	<0.0001
Self-employed (n = 338)	101 (29.9%)	237 (70.1%)			
No employed (n = 106)	18 (17.0%)	88 (83%)			
Total (n = 845)	N=538	N=307			

Table 9. Cross tabulation of socio-demographic factors and practice of preventive measures against dental caries based on the composite score

	Practice of preventive measures against dental caries		X^2	df	P
	Good	Poor			
	%	%			
Age (years)					
10 – 14 (n = 437)	53 (12.1%)	384 (87.9%)	105.395	1	0.000
15 - 19 (n = 408)	178 (43.6%)	230 (56.4%)			
Gender					
Male (n = 449)	118 (26.3%)	331 (73.7%)	0.539	1	0.463
Female (n = 396)	113 (28.5%)	283 (71.5%)			
Adolescent highest level of education					
Primary (n = 276)	19 (6.9%)	257 (93.1%)	146.372	2	0.000
Secondary (n = 524)	173 (33.0%)	351 (67.0%)			
University (n = 45)	39 (86.7%)	6 (13.3%)			
Main socioeconomic status of the mother					
Employed (n = 166)	61 (36.7%)	105 (63.3%)	9.420	2	0.009
Self-employed (n = 484)	118 (24.5%)	363 (75.5%)			
No employed (n = 198)	52 (26.3%)	146 (73.7%)			
Main socioeconomic status of the father					
Employed (n = 401)	138 (34.4%)	263 (65.6%)	27.070	2	0.000
Self-employed (n = 338)	82 (24.3%)	256 (75.7%)			
No employed (n = 106)	11 (104%)	95 (89.6%)			
Total (n = 845)	N=538	N=307			

Table 12. Cross tabulation of socio-demographic factors and constraints to the practice of preventive measures against dental caries based on the composite score

	Practice of preventive measures against dental caries		X^2	df	P
	Good	Poor			
	%	%			
Age (years)					
10 – 14 (n = 437)	404 (92.2%)	33 (7.6%)	42.659	1	<0.0001
15 - 19 (n = 408)	311 (76.2%)	97 (23.8%)			
Gender					
Male (n = 449)	365 (81.3%)	84 (18.7%)	8.130	1	0.004
Female (n = 396)	350 (88.4%)	46 (11.6%)			
Adolescent highest level of education					
Primary (n = 276)	268 (97.1%)	8 (2.9%)			
Secondary (n = 524)	431 (82.3%)	93 (17.7%)	118.504	2	<0.0001
University (n = 45)	16 (35.6%)	29 (64.4%)			
Main socioeconomic status of the mother					
Employed (n = 166)	120 (72.3%)	46 (27.7%)	26.429	2	<0.0001
Self-employed (n = 484)	428 (89.0%)	53 (11.0%)			
No employed (n = 198)	167 (84.3%)	31 (15.7%)			
Main socioeconomic status of the father					
Employed (n = 401)	315 (78.6%)	86 (21.4%)	25.569	1	<0.0001
Self-employed (n = 338)	298 (88.2%)	40 (11.8%)			
No employed (n = 106)	102 (96.2%)	4 (3.8%)			
Total (n = 845)	N=538	N=307			