

## Article

# Factors Associated with Non-Attendance at Dental Preventive Care in Slovak Adolescents

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**Abstract:** The study aimed to determine the factors associated with the avoidance of dental preventive care in adolescents and their parents in the framework of The Youth and Parents Risk Factor Behavior Survey in Slovakia has been initiated during the years 2015/2016. The data were collected using two separate standardized questionnaires: (i) the questionnaire for adolescents (n=515) and (ii) the questionnaire for parents (n=681). The study group consisted of 57 adolescents (54.4% males) who did not visit the dentist for preventive care in the previous year. The control group consisted of 458 adolescents (35.8% males) who visited a dentist for preventive care at least once in the previous year. A significantly higher number of males (54.4%), older adolescents (21.4%) were not visiting dental preventive care regularly. Incomplete family (56.1%), stressful situations at home (17.5%), and feeling unwell were observed as the factors contributing to the avoidance of dental preventive care. More than 34.5% of adolescents were not visiting either dental preventive care but also pediatric preventive care (AOR=5.14; 95%CI=2.40, 10.99). Divorced mothers and mothers with household income lower than 900 € had significantly higher dental care avoidance in their children. A significantly higher percentage of fathers from the exposed group were not visiting dental preventive care regularly (47.8%;  $p < .05$ ). The results of the study can be used as an educational intervention steps focusing on the influence of parental and adolescent behavior in dental preventive care.

**Keywords:** dental preventive care; adolescents; risk factors

## 1. Introduction

Despite being largely preventable, oral diseases and inequalities constitute a significant public health problem in the prevalence of the major chronic diseases of the 21st century. Oral health is an integral part of general health and should not be considered in isolation, as many risk factors of poor oral health [1] are the risk factors for obesity, heart disease, stroke, cancer, etc. [2].

Dental preventive care aims at reducing tooth decay incidence [3-4] and searching for dental disorders. The education of parents plays one of the key roles in prevention [5]. The most common chronic oral disease is dental caries in children with a negative impact on health [6], and quality of life as a result of pain [7] and life-threatening infections [8]. Among the oral diseases, which can be detected at dental preventive care, the most common are oral cancer, periodontal disease, trauma from injuries, oral infectious diseases, and hereditary lesions [9].

Adolescence is the life phase, in which future patterns of maturity are created [10]. The processes of adolescence must be in the context of social influences and psychological development [11] and these processes can take up to about 25 years [12].

The average number of teeth affected by dental caries has been declining from 1990 to 2015 in Europe (3.0 vs. 1.8). It was found that an average of 0.5–3.5 teeth is affected by dental caries in 12 year-old European children. In the European Region, 20–90% of 6 years old children have at least one tooth decay. The preventive efforts of public health dentists in Slovenia under WHO guidance resulted in a significant reduction of total caries index (DMFT) of 12-year-old children by 70% from 5.1 (1987) to 1.5 (2017). The situation improved in the Czech Republic (2010) and Slovakia (2015) as well [13].

According to Eurobarometer, which analyzed three reasons for visiting a dentist in the past 12 months (i. Check-up, examination, cleaning, ii. Routine treatment and iii. Emergency treatment) in 15,222 Europeans, it was found that the Dutch (79%) go mostly for preventive dental check-ups, examinations, and cleaning. The European average of dental visits for check-ups, examinations, or cleaning was 50%. Only 59% of Czechs, 50% of Slovaks, 49% of Hungarians, 37% of Slovenes, 32% of Poles, 30% of Latvians, 27% of Romanians and 20% of Bulgarians go for preventive dental check-ups, dental treatment, and cleaning [14].

The respondents the most likely to have visited a dentist during the past twelve months tend to be inhabitants of European Union countries: the Netherlands (83%), Denmark (78%), Germany and Luxembourg (77%), followed by Slovakia (73%) and Sweden (71%). In some of these countries, it is compulsory for inhabitants to go to their dentist once a year or even every six months in order to continue to benefit from a medical insurance cover for their teeth. On the other hand, the inhabitants of several countries in the east of the European Union are the least likely to have visited a dentist during the past year: Romania (34%), Hungary (35%), Latvia (41%), Poland (44%), Estonia and Bulgaria (45%), Lithuania (46%), and Greece (49%). It is also the case of respondents in Spain (43%) and Portugal (46%) [14].

In Slovakia, children under the age of 18 are allowed to visit a dentist twice a year for a preventive check-up without paying a fee. According to the latest available data in Slovakia, the standardized incidence of preventive dental care visits was 11.3% in the age group of 6–14 years, 30.2% in the age group of 15–18 years, and 86.5% in the age of 19 years [15].

According to socio-demographic analysis of the Special Eurobarometer results women are more likely than men to have visited a dentist during the past twelve months (59% versus 54%); respondents in the 40–54 age group are the most likely to have consulted a dentist over the last year (60% compared with 52% of those aged 55 or over) [14].

There were only 89 scientific studies accessible in the PubMed database for the last 5 years using the keywords "preventive dental visit and factors and adolescents". Family income, female gender, and dissatisfaction with oral health were the most important factors related to the last dental visit in those studies from the USA, Brazil and Poland [16–20].

We could not find any Slovak scientific study on this topic.

The present study aims to determine the factors associated with the avoidance of dental preventive care in adolescents and their parents in the framework of The Youth and Parents Risk Factor Behavior Survey in Slovakia, an ongoing cross-sectional school-based survey of students and their parents or legal representatives.

In relation to previous findings we hypothesized that the male gender, age, socioeconomic status of the family and avoidance of dental preventive care of parents could negatively impact the approach to dental preventive care in adolescents.

This is one of the first scientific studies determining and analyzing the factors associated with the avoidance of dental preventive care in adolescents in Slovakia.

## 2. Materials and Methods

The Youth and Parents Risk Factor Behavior Survey in Slovakia has been initiated during the years 2015/2016 in Bratislava, the Slovak capital as a model region [21-22]. It originates from The Behavioral Risk Factor Surveillance System (BRFSS) and The Youth Risk Behavior Surveillance System (YRBSS), originally designed by CDC, Atlanta, USA [21]. The BRFSS was a random telephone survey of US state residents aged 18 and older with the primary focus on such behaviors that include sedentary behavior, physical activity; nutrition, safety (e.g. the use of seatbelts and helmets); using tobacco and alcohol; getting preventive medical care, etc. [21]. The YRBSS was developed in 1990 monitoring six categories of priority health-risk behaviors among youth and young adults (aged 15–19 yrs) in public and private schools in the USA [3].

In the present study, special attention is paid to the factors associated with the avoidance of dental preventive care in adolescents and their parents.

The data were collected using two separate standardized questionnaires: (i) the questionnaire for adolescents and (ii) the questionnaire for parents. It included questions on a residence, family, school, health and safety, habits and behavior, nutrition, body weight and height, lifestyle, and physical activity of adolescents and their parents. The special emphasis was paid to the demographic (gender, age, residence, educational level) and behavioral (home and school stress, health status) characteristics of dental preventive care attendance among adolescents.

There were 2,384 questionnaires distributed in total (798 for students and their 1,586 parents), the response rates were 64.0% and 66.1% respectively. The sample involves 515 adolescents aged 15–19 years old from 8 selected secondary schools in Bratislava from a total of 101 secondary vocational and grammar schools – there were 22,723 students totally in Bratislava on the 1st of January 2016. A more detailed description of the sample was published previously [23-24]. In this cross-sectional study, 37.9% of males and 62.1% of females participated. The highest number of adolescents was in the age group of 15–18-year-olds (91.2%), of Slovak nationality (91.1%), studied grammar school (40.5%), had at least one sibling (82.5%), and lived in urban areas (59.4%). The incomplete family was observed in 71.3% of adolescents. The highest number of parents reported secondary educational level (fathers: 64.1%; mothers: 62.5%). More than 91% of mothers and fathers were employed (Table 1).

The study group consisted of 57 adolescents (mean age  $17.2 \pm 1.5$  years; 54.4% males) who did not visit the dentist for preventive care in the previous year. The control group consisted of 458 adolescents (mean age  $16.6 \pm 1.3$  years; 35.8% males) who visited a dentist for preventive care at least once in the previous year. The different number of adolescents ( $n=515$ ), their mothers ( $n=390$ ), and fathers ( $n=291$ ) in the study and control groups were caused by the different response rate of the Questionnaire for Parents (mothers 75.7%; fathers 56.5%) and incompleteness of the family (28.7%).

The data were analyzed using the Statistical Package for Social Science (SPSS) version 25 (International Business Machines Corp.; New Orchard Road; Armonk, New York, USA). Descriptive statistics were used to obtain means, standard deviations, and proportions. Associations between continuous variables (age) in the study group and the control group were analyzed by a two-sample t-test. Relationships between categorical data (gender, age groups, type of school, presence of stress at school and at home, residence, completeness of the family, feeling healthy, and pediatric preventive care) in both groups were evaluated by the chi-square test and Fisher exact test. The statistically significant level was determined at  $p$  values  $< .05$ .

Multivariate analyses (multiple logistic regression) were performed to identify factors independently associated with non-attendance at dental preventive care in adolescents in the family, in mothers and fathers separately, for all of these variables (age, gender, family completeness, dental preventive care) using adjusted odds ratios and 95% confidence intervals. There were missing data in some variable categories. Missing data occurred because of no response or incompleteness of the family. There was not significant difference among occurrence of missing data in the exposed and control groups ( $\chi^2=0.649$ ;  $p=0.420$ ). Missing data were not included into the analysis.

**Table 1.** Characteristics of the students' sample (n=515)<sup>†</sup>

Variables		N (%) <sup>1</sup>
Gender	Male	195 (37.9)
	Female	320 (62.1)
Age groups (yrs)	15-18	450 (91.2)
	19-22	59 (8.8)
Nationality	Slovak	469 (91.1)
	Other	46 (8.9)
Type of school	Grammar	209 (40.5)
	Vocational	126 (24.3)
	Secondary	182 (35.2)
Siblings	Yes	425 (82.5)
	No	90 (17.5)
Residence	Urban	306 (59.4)
	Rural	209 (40.6)
Family	Complete	363 (71.3)
	Incomplete	146 (28.7)
Father's education <sup>†</sup>	Primary	8 (2.8)
	Secondary	186 (64.1)
	University degree	96 (33.1)
Mother's education <sup>†</sup>	Primary	9 (2.3)
	Secondary	243 (62.5)
	University degree	137 (35.2)
Employment status father <sup>†</sup>	Employed	454 (93.8)
	Unemployed	30 (6.2)
Employment status mother <sup>†</sup>	Employed	470 (91.3)
	Unemployed	45 (8.7)

<sup>†</sup> There were missing data in some variable categories. Missing data occurred because of no response or incompleteness of the family.

### 3. Results

Male adolescents (from the study group; n=57) described avoidance of dental preventive care more frequently than female ones (54.4% vs. 45.6%;  $p < .01$ ). A significantly higher number of older adolescents (21.4%) were not visiting dental preventive care regularly. Incomplete family (56.1%), stressful situations at home (17.5%), and feeling unwell were observed as the factors contributing to the avoidance of dental preventive care (Table 2). More than 34.5% of adolescents were not visiting either dental preventive care or pediatric preventive care (Table 2).

The importance of a mother's influence on non-attendance at dental preventive care in the sample of adolescents has been shown in bivariate analysis (Table 3). The social factors such as family income (lower than 900 €) and incompleteness of the family (divorced and single mothers) were significantly associated with higher dental care avoidance in their children. It was found that in the study group there were significantly higher percentages of mothers who were not visiting preventive medical check-ups (32.4%) and dental care themselves (26.1%).

**Table 2.** Characteristics of selected variables associated with non-attendance at dental preventive care in the sample of adolescents (n=515) <sup>†</sup>

Variables		Study group <sup>1</sup>	Control group <sup>2</sup>	P-value
		N (%) <sup>†</sup> (n = 57)	N (%) <sup>†</sup> (n = 458)	
Gender	Male	31 ( <b>54.4</b> )	164 (35.8)	<b>.010</b>
	Female	26 (45.6)	294 (64.2)	
Age groups (yrs)	x ± SD	17.2 ± 1.5	16.6 ± 1.3	<b>.004</b>
	15-18	44 (78.6)	406 (89.6)	<b>.014</b>
	19-22	12 ( <b>21.4</b> )	47 (10.4)	
Type of school	Grammar	18 (31.6)	191 (41.7)	.309
	Vocational	18 (31.6)	106 (23.1)	
	Secondary	21 (36.8)	161 (35.2)	
Residence	Urban	35 (61.4)	271 (59.2)	.747
	Rural	22 (38.6)	187 (40.8)	
Family	Complete	25 (43.9)	338 (74.8)	< <b>.001</b>
	Incomplete	32 ( <b>56.1</b> )	114 (25.2)	
Stress at home	Yes	10 ( <b>17.5</b> )	29 (6.5)	<b>.037</b>
	No	47 (82.5)	420 (93.5)	
Stress at school	Yes	31 (54.4)	223 (48.7)	.422
	No	26 (45.6)	235 (51.3)	
Healthy feeling	Yes	38 (67.9)	397 (86.9)	<b>.005</b>
	No	18 ( <b>32.1</b> )	60 (13.1)	
Pediatric preventive care <sup>3</sup>	Yes	36 (65.5)	421 (91.5)	< <b>.001</b>
	No	19 ( <b>34.5</b> )	39 (8.5)	

<sup>1</sup> Adolescents who did not visit the dentist in the previous year; <sup>2</sup> Adolescents who visited a dentist for preventive care at least once in the previous year; <sup>3</sup> at least once a year; <sup>†</sup> There were missing data in some variable categories. Missing data occurred because of no response or the incompleteness of the family.

**Table 3.** Characteristics of selected variables in mothers associated with non-attendance at dental preventive care in the sample of adolescents (n = 390) <sup>†</sup>

Selected variables in mothers	Study group <sup>1</sup>	Control group <sup>2</sup>
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		N (%) <sup>†</sup> (n = 35)	N (%) <sup>†</sup> (n = 355)	P-value
Age groups (yrs)	x±SD	42.4 ± 4.4	43.6 ± 5.1	.183
	30-50	33 (94.3)	321 (90.4)	.371
	51-71	2 (5.7)	34 (9.6)	
Mother's educational level	Primary school	2 (5.7)	7 (2.0)	.259
	High school	23 (65.7)	220 (62.1)	
	University	10 (28.6)	127 (35.9)	
Marital status	Single	4 (11.4)	25 (7.0)	.034
	Married	16 (45.7)	263 (74.1)	
	Divorced	13 (37.1)	58 (16.3)	
	Widow	2 (5.8)	9 (2.6)	
Residence	Urban	22 (62.9)	217 (61.1)	.843
	Rural	13 (37.1)	138 (38.9)	
Employment	Yes	30 (88.2)	317 (89.8)	.789
	No	4 (11.8)	36 (10.2)	
Household income (€)	≤ 900	19 (55.9)	115 (35.6)	.031
	>900	15 (44.1)	208 (64.4)	
Stress at work	Yes	24 (75.0)	244 (73.5)	.854
	No	8 (25.0)	88 (26.5)	
Healthy feeling	Yes	29 (82.9)	291 (84.3)	.826
	No	6 (17.1)	54 (15.7)	
Preventive care <sup>3</sup>	Yes	23 (67.6)	309 (88.5)	.017
	No	11 (32.4)	40 (11.5)	
Dental preventive care	Yes	17 (73.9)	293 (95.1)	.034
	No	6 (26.1)	15 (4.9)	

<sup>1</sup> Adolescents who did not visit the dentist in the previous year; <sup>2</sup> Adolescents who visited a dentist for preventive care at least once in the previous year; <sup>3</sup> Preventive care in at least one physician (gynecologist, urologist, gastroenterologist, GP) at least once a year; <sup>†</sup> There were missing data in some variable categories. Missing data occurred because of no response or the incompleteness of the family.

The avoidance of preventive care (47.8%;  $p < .05$ ) was the only variable representing a father's influence on non-attendance at dental preventive care of adolescents in bivariate analysis.

Selected variables (male gender, incompleteness of the family, pediatric preventive care attendance) were statistically significant in multivariate analyses among factors independently associated with non-attendance at dental preventive care in adolescents (Table 4).

Non-attendance at dental preventive care in mothers was statistically significant (AOR=4.19; 95%CI=1.50, 11.71;  $p < .01$ ) among variables independently associated with non-attendance at dental preventive care in adolescents in multivariate analyses (Table 5).

**Table 4.** Characteristics of selected variables associated with non-attendance at dental preventive care among adolescents – multivariate analysis (n=515) <sup>†</sup>

Variables		AOR	95%CI
Gender	Female	1	-
	Male	<b>2.11</b>	<b>1.09, 4.03*</b>
Age groups (yrs)	15-18	1	-
	19-22	1.19	0.51, 2.78
Type of school	Grammar	1	-
	Secondary/Vocational	1.32	0.65, 2.70
Residence	Rural	1	-
	Urban	0.77	0.08, 7.64
Family	Complete	1	-
	Incomplete	<b>3.26</b>	<b>1.68, 6.30***</b>
Stress at home	No	1	-
	Yes	1.71	0.62, 4.68
Stress at school	No	1	-
	Yes	1.18	0.61, 2.28
Healthy feeling	Yes	1	-
	No	1.13	0.49, 2.60
Pediatric preventive care <sup>1</sup>	Yes	1	-
	No	<b>5.14</b>	<b>2.40, 10.99***</b>

AOR–adjusted odds ratio for all these variables; CI – confidence interval; <sup>1</sup> at least once a year; \* p<.05; \*\*\* p<.001;

† There were missing data in some variable categories. Missing data occurred because of no response or incompleteness of the family.

**Table 5.** Characteristics of selected variables in mothers associated with non-attendance at dental preventive care among adolescents – multivariate analysis (n=390) †

Selected variables in mothers		AOR	95%CI
Age group (yrs)	30-50	1	-
	51-71	0.40	0.05, 3.21
Mother's educational level	High school diploma/University	1	-
	Primary/High school without a diploma	1.20	0.40, 3.62
Marital status	Married/in relationship	1	-
	Single/divorced/widowed	2.20	0.91, 5.32
Residence	Rural	1	-
	Urban	1.10	0.45, 2.66
Employment	Yes	1	-
	No	0.42	0.04, 4.41
Household income (€)	>900	1	-
	≤ 900	1.51	0.63, 3.63
Stress at work	No	1	-
	Yes	0.97	0.67, 2.54
Healthy feeling	Yes	1	-
	No	0.86	0.25, 2.98

Preventive care <sup>1</sup>	Yes	1	-
	No	1.95	0.69, 5.46
Dental preventive care	Yes	1	-
	No	<b>4.19</b>	<b>1.50, 11.71**</b>

AOR=adjusted odds ratio; CI=confidence interval; <sup>1</sup> Preventive care in at least one physician (gynecologist, urologist, gastroenterologist, GP) at least once a year; \*\* p<.01; † There were missing data in some variable categories. Missing data occurred because of no response or incompleteness of the family.

Single, divorced, widowed marital status in fathers (AOR=3.73; 95%CI=1.21, 11.54; p<.05) and non-attendance at dental preventive care (AOR=3.41; 95%CI=1.24, 9.32; p<.05) were statistically significant among variables independently associated with non-attendance at dental preventive care in adolescents in multivariate analyses (Table 6).

**Table 6.** Characteristics of selected variables in fathers associated with non-attendance at dental preventive care among adolescents– multivariate analysis (n=291) †

Selected variables in fathers		AOR	95%CI
Age group (yrs)	32-44	1	-
	45-76	0.50	0.19, 1.27
Father's educational level	High school diploma/University	1	-
	Primary/High school without a diploma	1.50	0.56, 4.02
Marital status	Married/in relationship	1	-
	Single/divorced/widowed	<b>3.73</b>	<b>1.21, 11.54*</b>
Residence	Rural	1	-
	Urban	0.91	0.34, 2.46
Employment	Yes	1	-
	No	-	-
Household income (€)	>900	1	-
	≤ 900	0.48	0.14, 1.57
Stress at work	No	1	-
	Yes	0.47	0.18, 1.24
Healthy feeling	Yes	1	-
	No	1.98	0.56, 6.98
Preventive care <sup>1</sup>	Yes	1	-
	No	1.23	0.43, 3.50
Dental preventive care	Yes	1	-
	No	<b>3.41</b>	<b>1.24, 9.32*</b>

AOR=adjusted odds ratio; CI=confidence interval; <sup>1</sup>Preventive care in at least one doctor (urologist, gastroenterologist, GP) at least once a year; \* p<.05; † There were missing data in some variable categories. Missing data occurred because of no response or incompleteness of the family.

#### 4. Discussion

This cross-sectional study identified several factors associated with non-attendance at dental preventive care in the sample of adolescents and confirmed the hypotheses set at the beginning of the study.

In the utilization of healthcare services, gender disparities are often present. Preventive care utilization was found to be higher in women than in men in the retrospective, cross-sectional study using the Medical Expenditure Panel Survey (MEPS) data [25]. Men had significantly lower odds of using blood pressure check, cholesterol check, dental check (OR= 0.71; 95%CI=0.68, 0.75), and flu shots [25]. In the cross-sectional study of Fonseca et al. [19] the percentage of adolescents who did not visit a dentist for more than 2 years was 15.1% and it was significantly associated with gender, lower family income, bad dental, and periodontal health, access to dental services, and health care system. In our study, significantly more male adolescents were avoiding dental preventive care and a dental visit in the previous year. In the study of Fonseca et al. [19] a significantly higher proportion of female adolescents (86.4%) than males (82.9%) reported visiting the dentist in the past 2 years ( $p=0.003$ ).

The American study on a large sample revealed that male gender, race, and lack of insurance were associated with a lack of annual dental visits [16]. In another American study by Ronis et al. [17] on a smaller number of face-to-face interviews socioeconomic status, race, and sex are important in planning regular dental visits. The study of Shaban et al. [18] confirmed a significant relationship between deprivation, family social class, and irregular dental visits of children. From Central and Eastern Europe, the Polish study showed that female gender and residence in a large city have a positive effect on visiting dental offices. The most frequent motivation for visiting a dental office was to receive conservative treatment, while the least common reasons were prophylaxis and tooth injuries [20]. We could not find any Slovak scientific study for discussion on this topic.

In the study by Aalsma et al. [26] analyzing parents' and adolescents' doubts about preventive care, a significant relationship between adolescents who discussed health with their parents and visiting the special medical provider on regular basis was found. One of the main barriers of not seeking preventive care in adolescents was their parents who avoided dental preventive medical visits. This was also confirmed in our study among mothers (AOR=4.19; 95% CI=1.50, 11.71) and fathers (OR=3.41; 95% CI=1.24, 9.32) in bivariate and multivariate analysis. Mothers and fathers who do not attend preventive dental check-ups regularly are more likely not to attend general preventive check-ups paid by health insurance. Non-attendance at dental preventive care among mothers and fathers remained significant among variables independently associated with non-attendance at dental preventive care in adolescents in multivariate analyses.

This finding can be partly explained by the parental behavior model where adolescents often observe the behavior of their parents. Discussion with parents about medical or dental care importance has a great impact on attendance at preventive check-ups.

A higher percentage of adolescents from vocational and secondary schools were not visiting dental preventive care regularly. This can be partly explained by a typical behavior in this age. In our study, 67.9% of adolescents felt healthy and were not visiting preventive care. Adolescents are thought to be healthy, but a lot of them have some health problems already [27]. Ensuring adequate health care in an adolescent age can be challenging compared to adults and children, due to their rapid emotional, physical, and intellectual development [28].

Attendance at dental services also depends on socio-economic and individual characteristics. A significant impact on avoidance of dental preventive care had adolescents with incomplete family and stressful situations at home. Adolescents with an incomplete family often feel a lack of social support, which can cause negative health behavior. Inadequate social support was associated with less frequent use of dental services [29]. Stress at home as the individual variable responsible for dental care avoidance can be influenced by socio-economic variables of mothers and fathers such as divorced marital status and low household income. The divorced marital status has a great impact on an adolescent's emotional well-being and household income [30].

In our study, the significant relationships among dental preventive care avoidance in parents and their children were investigated. These associations can be partially explained as the parental pattern. Parents can affect interactions, emotional identification, and acceptance of family opinions in adolescents [31].

The results presented in this paper are the pilot results of the Youth and Parents Behavioral Survey (YABS) project. This is a comprehensive study, based on a combination of two validated studies. Parents are directly involved in the study, which makes challenges for the analysis and future prevention and intervention. The limitation of this study is a small sample size of the study group of adolescents reporting non-attending preventive dental check-ups in the previous year, the cross-sectional design of the study, and different response rates for adolescents, mothers, and fathers, and incompleteness of families.

## 5. Conclusions

Our study revealed several demographic (male gender, older age), social (incomplete family and stress at home), and individual (subjective feeling of health) factors among the adolescents which have a significant impact on the avoidance of dental preventive care.

Significant impact on non-attendance at dental preventive care in adolescents had also parental factors such as divorced/single/widowed marital status and the avoidance of dental preventive check-ups.

In our preventive strategy, we should focus on those significant risk factors identified in the study in a targeted campaign, especially on family and parental pattern. Parents, adolescents, and teachers should be aware that oral health is an integral part of general health and impacts the overall quality of life. It affects also society and health systems through the associated health costs. The prevention of caries is important in children, because oral diseases remain among the most important health burdens. Within the consequences of health policy, we will contribute to the increased attendance of adolescents at preventive dental care and thus to the reduction of the incidence of dental caries and the health care expenditures as well.

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