



PREVALENCE OF DENTAL DISEASES AMONG PUBERTAL GIRLS: MAIN RISK FACTORS AND PREVENTIVE APPROACHES

Adiba Iskandarova ¹

Feruzbek Khaitboev ²

Bekrusbek Khasanbaev ³

¹ Master's student, 1st year, Faculty of Dentistry,

² Bachelor's student, 3rd year, Faculty of Dentistry,

³ Bachelor's student, 4th year, Faculty of Dentistry,

Urgench State University, Urgench, Uzbekistan

Corresponding author: adibaiskandarova49@gmail.com

<https://doi.org/10.5281/zenodo.18496049>

Abstract: The article presents data on the prevalence of dental diseases among pubertal girls (aged 13–17), obtained through surveys and analysis of dental service visits. The most frequent diagnoses identified were periodontitis, pulpitis, and lesions of the hard dental tissues. The study examined dentists' opinions on the forms and effectiveness of primary prevention, as well as adolescents' perception of these preventive measures. Discrepancies were revealed between the views of professionals and patients. The most acknowledged forms of prevention were social media and individual consultations. Key risk factors included the consumption of carbonated drinks and inadequate oral hygiene. The study concludes that it is necessary to develop targeted preventive programs taking into account the age-specific and psychological characteristics of adolescent girls.

Keywords: dental diseases, primary prevention, pubertal girls, risk factors, dental service utilization, preventive measures, social media, dentists' opinions

Резюме: В статье представлены данные об уровне распространённости стоматологических заболеваний у девушек пубертатного возраста (13–17 лет), полученные в результате анкетирования и анализа обращений за стоматологической помощью. Выявлены наиболее частые диагнозы — периодонтит, пульпит и поражения твёрдых тканей зубов. Проведено исследование мнений стоматологов о формах и эффективности первичной профилактики, а также оценено восприятие профилактических мероприятий самими подростками. Установлены расхождения между взглядами специалистов и пациенток, выявлены наиболее признанные формы профилактики (социальные сети и индивидуальные беседы), а также ключевые факторы риска, включая потребление газированных напитков и недостаточную гигиену полости рта. Сделан вывод о необходимости разработки целевых профилактических программ с учётом возрастных и психологических особенностей подростков.

Ключевые слова: стоматологические заболевания, первичная профилактика, девушки пубертатного возраста, факторы риска, обращаемость, профилактические мероприятия, социальные сети, мнение стоматологов

Introduction

Ensuring the dental health of the population is regarded not only as the treatment of teeth but also as the implementation of effective preventive measures. Among the various forms of prevention, primary prevention has the greatest medical, social, and economic significance, as

it is aimed at preventing the development and progression of dental diseases in healthy or practically healthy individuals. The implementation of such measures is particularly relevant among adolescents of pubertal age, especially girls aged 13–17 years, since this period is characterized by intense hormonal changes that affect various body systems, including the maxillofacial region.

Despite a large number of studies devoted to the prevalence of dental diseases and the effectiveness of various preventive approaches, the opinions and experiences of practicing dentists in the field of primary prevention among pubertal-age girls remain insufficiently studied. At the same time, this age group requires special attention due to its high susceptibility to dental caries, periodontal diseases, pulpitis, and other pathological conditions of the oral cavity. In this context, it appears appropriate to conduct an in-depth analysis of both the prevalence of dental diseases among this group of patients and the level of implementation of primary preventive measures by dental professionals.

The aim of the present study was to investigate the prevalence of dental diseases among pubertal-age girls (13–17 years), to identify key risk factors for their development, and to assess the opinions of practicing dentists regarding the methods and effectiveness of primary prevention in this age group.

To achieve this aim, the following objectives were set:

1. To analyze data on the prevalence of various dental diseases among girls aged 13–17 years who sought dental care.
2. To study the opinions and practical experience of dentists working in public and private institutions regarding the implementation of primary prevention of dental diseases.
3. To identify the level of participation of pubertal-age girls in preventive measures.
4. To determine the main risk factors for the development of dental diseases in this population group based on expert assessments by dentists and interviews with the patients themselves.
5. To compare the views of dentists and girls regarding the most effective forms of primary prevention.

Materials and Methods

As part of the study, a survey and interviews were conducted with 119 dentists practicing in both public ($n = 67$) and private dental institutions ($n = 52$). Among the surveyed specialists, 70 ($58.82 \pm 4.51\%$) were men and 49 ($41.18 \pm 4.51\%$) were women. Regarding age categories, 77 respondents ($64.70 \pm 4.38\%$) were in the first phase of adulthood (21–35 years), 34 individuals ($28.57 \pm 4.14\%$) were in the second phase of adulthood (36–60 years), and 8 specialists ($6.72 \pm 2.29\%$) were over 60 years of age.

The dentists' work experience was distributed as follows: up to 5 years — 59 specialists ($49.57 \pm 4.58\%$), from 5 to 10 years — 25 ($21.0 \pm 3.73\%$), from 11 to 20 years — 11 ($9.24 \pm 2.65\%$), and more than 20 years — 24 ($20.16 \pm 3.68\%$).

Table 1. Characteristics of the surveyed dentists ($n = 119$)

Показатель	number	% ($M \pm m$)
Gender		
Men	70	$58,82 \pm 4,51\%$
Women	49	$41,18 \pm 4,51\%$
Age		

21–35 years old	77	64,70 ± 4,38%
36–60 years old	34	28,57 ± 4,14%
Older than 60	8	6,72 ± 2,29%
Place of work		
Governmental work place	71	59,67 ± 4,50%
Private clinic	48	40,33 ± 4,50%
Working time		
No more than 5 years	59	49,57 ± 4,58%
5–10 years	25	21,0 ± 3,73%
11–20 years	11	9,24 ± 2,65%
Более years	24	20,16 ± 3,68%

During the clinical phase of the study, an analysis was conducted of dental visits made by pubertal-age girls (13–17 years). Data on the prevalence of dental diagnoses were obtained based on the results of primary dental consultations.

In addition, to provide a more in-depth assessment of the effectiveness of preventive approaches, interviews were conducted with 570 girls from the specified age group. The participation of this group in preventive activities organized by dentists as part of their professional practice was also examined. Various formats of prevention (individual counseling, group sessions, printed materials, social media publications, etc.) were compared, and their perception was evaluated both by specialists and by the patients themselves.

The study employed methods of comparative analysis and descriptive statistics, including the assessment of relative and absolute values, as well as testing the statistical significance of differences using the *P* criterion ($P < 0.05$ was considered statistically significant).

Results and Discussion

The analysis of dental visits by pubertal-age girls (13–17 years) demonstrated a high prevalence of diseases affecting the hard tissues of the teeth and the periodontium. According to the obtained data, the largest proportion of diagnoses included periodontitis (80.67 ± 3.62%, $n = 96$), pulpitis (78.99 ± 3.73%, $n = 94$), and dental caries (77.31 ± 3.84%, $n = 92$). Diseases of the oral mucosa were recorded in 59.66 ± 4.50% of cases ($n = 71$), periodontal pathologies in 49.58 ± 4.58% ($n = 59$), and malocclusion and dental arch deformities in 42.02 ± 4.52% of cases ($n = 50$).

Special attention was paid to the timeliness of dental visits by the girls. According to 90.70 ± 2.66% ($n = 108$) of the surveyed dentists, pubertal-age girls seek dental care in a more timely manner compared with the general population, among whom the rate of timely visits was 53.78 ± 4.57% ($n = 64$). This finding is interpreted as reflecting a greater concern for appearance and psychological well-being among girls in this age group.

Table 2. Prevalence of dental diseases among pubertal-age girls ($n = 119$)

Диагноз	Number	% (M ± m)
Periodontitis	96	80,67 ± 3,62%
Pulpitis	94	78,99 ± 3,73%

Lesions of the hard dental tissues	92	77,31 ± 3,84%
Diseases of the oral mucosa	71	59,66 ± 4,50%
Periodontal diseases	59	49,58 ± 4,58%
Anomalies and deformities of the dental arches	50	42,02 ± 4,52%

However, the analysis of this group's participation in preventive measures revealed significant gaps. Only $4.47 \pm 2.52\%$ of girls were covered by primary prevention programs in public healthcare institutions, while in private clinics this figure was even lower— $2.84 \pm 2.00\%$. Among dentists working in public institutions ($n = 67$), only $38.80 \pm 5.95\%$ reported implementing primary prevention in their practice, and this proportion was even smaller among dentists in private clinics ($n = 52$), amounting to $15.38 \pm 5.00\%$.

Participation of girls specifically in preventive activities conducted outside the context of treatment, as separate visits, was particularly low. According to dentists from public clinics, pubertal-age girls sought preventive consultations in $2.98 \pm 2.08\%$ of cases in an official setting and in $10.44 \pm 3.73\%$ in informal settings (at home, outdoors, etc.). In private clinics, the corresponding figures were $3.84 \pm 2.66\%$ and $11.53 \pm 4.43\%$, respectively. Thus, no statistically significant differences between the types of institutions were identified for this parameter ($P > 0.05$).

Regarding the forms of prevention used, dentists most frequently employed individual counseling ($20.89 \pm 4.97\%$ in public institutions and $23.07 \pm 5.84\%$ in private clinics) and information dissemination through social media or periodical publications ($29.85 \pm 5.59\%$ and $25.00 \pm 6.00\%$, respectively). Group discussions and training seminars were used extremely rarely—less than 5% of cases. A number of dentists reported difficulties in selecting an effective form of prevention ($26.86 \pm 5.41\%$ in public institutions and $28.84 \pm 6.28\%$ in private clinics).

The opinions of pubertal-age girls regarding prevention were also analyzed. Of the 570 respondents, $50.17 \pm 2.09\%$ ($n = 286$) stated that they would be interested in receiving preventive information via social media, whereas only $12.28 \pm 1.37\%$ ($n = 70$) considered individual counseling to be useful. Only $1.92 \pm 0.57\%$ ($n = 11$) gave positive feedback on seminars and group discussions, and $0.70 \pm 0.35\%$ ($n = 4$) on printed informational materials. Nearly one third of respondents ($34.91 \pm 1.99\%$, $n = 199$) found it difficult to answer this question, which may indicate insufficient awareness of preventive issues.

A comparison of dentists' and girls' assessments revealed statistically significant differences for most forms of prevention ($P < 0.05$ – $P < 0.001$). The greatest agreement was observed regarding informational influence through social media, highlighting the high relevance of using modern digital communication channels in the development of preventive programs.

An important component of the study was the identification of risk factors for dental diseases among girls aged 13–17 years. According to expert assessments by dentists, the most significant factors were consumption of carbonated beverages ($84.03 \pm 3.36\%$), poor oral hygiene ($58.42 \pm 4.51\%$), unhealthy diet ($16.81 \pm 3.43\%$), and the presence of harmful habits ($15.13 \pm 3.28\%$). Less significant factors included unfavorable environmental conditions ($8.40 \pm 2.54\%$), stress ($4.20 \pm 1.84\%$), and hormonal changes ($2.52 \pm 1.44\%$). However, the girls

themselves, unlike specialists, more often identified sweets as the second most significant risk factor after carbonated beverages ($76.14 \pm 1.78\%$).

Thus, substantial differences were identified between specialists and adolescents in the perception of risk factors and preventive methods. This confirms the need to consider the opinions of the target group itself when developing preventive measures.

Conclusion

The conducted study demonstrated a high prevalence of dental diseases among pubertal-age girls, particularly periodontitis (80.67%), pulpitis (78.99%), and lesions of the hard dental tissues (77.31%). Despite a relatively high level of timely dental visits (90.70%), the coverage of primary prevention was extremely low—less than 5% in both public and private institutions.

The opinions of dentists and patients regarding forms of preventive work differed significantly, especially in terms of the perceived effectiveness of group activities and printed informational materials. Individual counseling and informational outreach through social media were recognized as the most effective and promising approaches. It was also established that a substantial proportion of girls (34.91%) found it difficult to evaluate preventive formats, emphasizing the need to expand the educational component in this field.

According to specialists, the main risk factors are the consumption of carbonated beverages, inadequate oral hygiene, and unhealthy diet, which generally aligns with the views of the target group, except for the role of sweets, which the girls rated as more significant.

The obtained results confirm the necessity of developing targeted preventive programs focused on adolescent girls, taking into account their perceptions, needs, and preferred communication channels. Only under these conditions can an improvement in the effectiveness of dental disease prevention among pubertal-age girls be expected

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