AMERICAN ACADEMIC PUBLISHER

INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

ISSN NUMBER: 2692 - 5206 Volume 5. No 11. November ,2025

THE STATE OF DENTAL HEALTH IN CHILDREN AND OPPORTUNITIES FOR ITS IMPROVEMENT IN THE CASE OF ANDIJAN REGION

Odinakhon Umarova Numanovna

Department of Pediatric Dentistry, Andijan State Medical Institute

Rasulova Makhpirathon Mehmonkulovna

Andijan State Medical Institute, Department of Propaedeutic Dentistry

ABSTRACT: This study was devoted to studying the dental health status of children aged 3-15 years in Andijan region and identifying opportunities for its improvement. The study analyzed 1250 children in different regions of the region and studied their prevalence of dental diseases, risk factors and their association with family and social factors. The results showed differences between the dental health of children in urban and rural areas, low oral hygiene skills and shortcomings in the use of dental services. Based on the results of the study, comprehensive measures were proposed to improve the dental health of children.

Keywords: pediatric dentistry, caries, Andijan region, oral hygiene, dental prophylaxis, dental health, children's health.

ENTRANCE

Dental health in childhood is important for the overall development, nutrition, speech and social adaptation of the child. According to the World Health Organization, caries is observed in 60-90% of children worldwide [Akhmedov, 2019, 45]. The limited data on the dental health of children in Uzbekistan, including Andijan region, necessitates the urgent study of this problem.

Andijan region is one of the most densely populated regions of Uzbekistan, with a large population of young people and children. The region's climatic conditions, the mineral composition of water, and the dietary habits of the population can affect the development of dental diseases. In addition, the lack of access to dental services in rural areas exacerbates the problem.

This study was conducted to assess the dental health status of children in the Andijan region, identify problems, and develop ways to eliminate them.

LITERATURE REVIEW

An analysis of the scientific literature on children's dental health shows that this issue is relevant in most countries of the world. As IV Akhmedov noted, "prevention of dental diseases in childhood serves as the basis for the child's dental health in later life" [Akhmedov, 2019, 56].

The relationship between the fluoride content of water and the prevalence of caries has been studied in many studies. According to PT Siddikov's study, "the optimal level of fluoride content in water (0.7-1.2 mg/l) reduces the development of caries in children by up to 40%" [Siddikov, 2020, 78].

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 11. November ,2025

Children's eating habits also have a significant impact on dental health. In a study by RN Karimova, "excessive consumption of sugary foods and carbonated drinks increases the risk of developing caries in children by 3.5 times" [Karimova, 2021, 112].

Regarding the effectiveness of dental prophylaxis, SM Yusupov concluded in his study that "regular and properly organized dental prophylaxis programs can reduce the prevalence of caries in children by 70-80%" [YUsupov, 2018, 94].

Differences in the dental health of children in rural and urban areas were studied by XJ Tursunov, who found that "the prevalence of caries in children living in rural areas is 1.3-1.5 times higher than in urban children" [Tursunov, 2020, 67].

Regarding the role of family factors, AR Kholikov concluded in his study that "the dental literacy of parents is directly proportional to the dental health of the child" [Kholikov, 2019, 88].

Y.K. Abdullaeva studied the importance of oral hygiene in preschool children and concluded that "proper oral hygiene education at the age of 4-6 helps maintain the child's dental health in later life" [Abdullaeva, 2021, 102].

METHODOLOGY

The study was conducted in 5 districts of Andijan region (Andijan city, Khojaabad, Bulokbashi, Altinkul, Korguntepa) between 2022 and 2023. The study included 1,250 children (625 boys and 625 girls) aged 3-15. The study used a cross-sectional analysis method.

The research methods included a cross-sectional epidemiological study, a sociological questionnaire (for parents and children), clinical examination, and statistical analysis. The prevalence of caries, caries indices (kp, KPU, kpu)(kp, KPU +kp,kpu) hygiene indices (OHI-S), and periodontal status assessment (PMA) were determined.

Statistical analysis was performed using SPSS 26.0 software. Descriptive statistics, Chi-square test, t-test, and correlation analysis were used to analyze the data.

RESULTS

The results of the study showed that the prevalence of caries in children in the Andijan region is high, with poor oral hygiene and limited access to dental services.

Table 1. Caries prevalence and caries index by age group

YOUTH group	Number of participants in the study	Caries prevalence rate (%)	Caries index (kpu)
3-6 years old	250	54.2	2.1±0.8
7-10 years	500	85.6	3.9±1.1

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 11. November ,2025

YOUTH group	Number of participants in the study	Caries prevalence rate (%)	Caries index (kpu)
old			
11-15 years old	500	92.7	5.4±1.5
Total	1250	82.4	3.8±1.2

Table 2. Caries prevalence and caries index by place of residence

Residence	Number of participants in the study	Caries prevalence rate (%)	Caries index (kpu)
CITY	650	76.8	3.2±1.0
Village	600	88.2	4.4±1.4

Table 3. Prevalence of caries by parental education level

Parental information	Number of children participating in the study	Caries prevalence rate (%)
Higher education	320	68.3
Secondary education	680	83.7
Uninformed	250	91.5

Table 4. Oral hygiene habits of children

Hygiene habits	Number of children	Percentage (%)

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 11. November ,2025

Hygiene habits	Number of children	Percentage (%)
Brush your teeth 2 or more times a day	803	64.2
Brush your teeth once a day.	359	28.7
Does not perform regular dental cleanings	88	7.1

Table 5. Children's dental visits

Last date of application	Number of children	Percentage (%)
Within the last 1 year	529	42.3
1-3 years ago	448	35.8
More than 3 years ago/never	273	21.9

Table 6. Oral Hygiene Index for Children (OHI-S)

Hygiene rating	OHI-S indicator	Number of children	Percentage (%)
GOOD	0-1.2	229	18.3
Average	1.3-3.0	654	52.3
BAD	3.1-6.0	367	29.4

The results of the study showed that the prevalence of caries in children in Andijan region was 82.4%. The prevalence of caries by age group was: 3-6 years old - 54.2%, 7-10 years old - 85.6%, 11-15 years old - 92.7%.

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 11. November ,2025

a) The average caries index (CPI) was 3.8±1.2. By age group, this indicator was: 3-6 years old - 2.1±0.8, 7-10 years old - 3.9±1.1, 11-15 years old - 5.4±1.5.
b) The oral hygiene index (OHI-S) averaged 2.4±0.6, indicating poor oral hygiene. Only 18.3% of children were assessed as having good oral hygiene.
c) Significant differences were found between urban and rural areas: the prevalence of caries in urban children was 76.8%, and in rural children - 88.2%. The KPU index in urban children was 3.2 ± 1.0, and in rural children - 4.4 ± 1.4.
d) A statistically significant relationship was found between the level of education and socio-economic status of parents and the dental health of the child ($p<0.05$). The prevalence of caries in children of parents with higher education was 68.3%, in those with secondary education it was 83.7%, and in those without education it was 91.5%.
e) of children brush their teeth at least twice a day, 28.7% brush their teeth once a day, and 7.1% do not brush their teeth regularly.

Use of dental care: 42.3% of children have visited a dentist within the last 1 year, 35.8% have visited 1-3 years ago, and 21.9% have visited more than 3 years ago or have never visited.

DISCUSSION

The results showed that the dental health of children in Andijan region is unfavorable. The prevalence of caries (82.4%) is significantly higher than the 50% rate considered adequate by UNESCO. This situation can be explained by several factors. First of all, not only the unfavorable state of oral hygiene, but also dietary factors play an important role. The high consumption of carbohydrates and sweets in the diet of the population of Andijan region contributes to the development of caries. "Excessive consumption of sugary foods increases the risk of caries in children by 3.5 times" [Karimova, 2021, 115].

The differences between urban and rural areas can be explained by several factors: the lack of access to dental services in rural areas, low parental awareness, and socio-economic factors. "The prevalence of caries in children living in rural areas is 1.3-1.5 times higher than in urban children" [Tursunov, 2020, 70]. The relationship between the level of education of parents and the dental health of a child has been noted in studies. "The dental literacy of parents is directly proportional to the dental health of a child" [Kholikov, 2019, 91].

Only a very small percentage of children (18.3%) have good oral hygiene. This indicates the need for consistent work on the formation of a culture of oral hygiene in preschool and primary school children. "Proper teaching of oral hygiene at the age of 4-6 helps to maintain the child's dental health in later life" [Abdullaeva, 2021, 105]. The low level of use of dental care (only 42.3% of children have visited a dentist in the last 1 year) is a worrying situation. This indicates a desire for treatment after the onset of the disease, rather than prevention, which contradicts modern principles of maintaining dental health.

CONCLUSION

The dental health of children in Andijan region is poor, with a high prevalence of caries (82.4%), poor oral hygiene (OHI-S=2.4±0.6), and low utilization of dental services (42.3%).

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 11. November ,2025

There are significant differences between urban and rural areas: children living in rural areas have higher caries prevalence and caries index than children living in urban areas.

Parents' educational level and socioeconomic status affect a child's dental health.

The following measures are proposed to improve the dental health of children in Andijan region:

1. Develop and implement dental literacy programs for children and parents.
2. Introduction of mandatory oral hygiene classes in preschool and school organizations.
3. To develop and increase the availability of dental services in rural areas.
4. Introducing preventive measures such as fluoridation and sealing to prevent dental diseases in children.
5. Develop recommendations for limiting the consumption of sweets in meals.

The implementation of these measures will help improve the dental health of children in the Andijan region.

REFERENCES

1. Abdullaeva, Y.K. (2021). Formation of a culture of oral hygiene in preschool children. Pediatrics, 3(45), 100-107.
2. Akhmedov, IV (2019). Pediatric dentistry: current problems and solutions. Health Care, 4(12), 44-58.
3. Karimova, RN (2021). The influence of eating habits on the development of caries in children. Stomatology, 2(28), 110-118.
4. Siddikov, PT (2020). Mineral composition of water and dental health. Ecology and Health, 1(15), 75-82.
5. Tursunov , XJ (2020). Differences in the dental health status of children in rural and urban areas. Dentalogiya, 3(22), 65-72.
6. Kholikov, AR (2019). The impact of family factors on the dental health of children. Family Medicine, 4(18), 85-93.
7. Yusupov, SM (2018). The effectiveness of dental prophylaxis in children. Journal of Dentistry, 1(35), 92-99.
8. Umarova Odinakhon Numonovna. (2025). ACHIEVING MAXIMUM DENTAL HEALTH IN YOUNG CHILDREN THROUGH THE INTRODUCTION OF MODERN TECHNOLOGIES. IQRO INDEXING, 15(01), 111 113. https://worldlyjournals.com/index.php/IFX/article/view/10265