International Journal of
Health Systems and Medical Sciences

ISSN: 2833-7433
Volume 2 | No 6 | Jun -2023

The Prevalence of Fluorosis Forms in Children in the Bukhara Region and the City of Bukhara

Taylakova Dildora Ibragimovna [1]

[1] Bukhara State Medical Institute named after Abu Ali ibn Sino. Bukhara, Uzbekistan,
Associate Professor of the Department of Therapeutic Dentistry, Bukhara State Medical Institute

The topic's relevance. The term "dental fluorosis" is used all over the world. At the start of the twentieth century. It was discovered that the reason is an overabundance of fluorine in the water, and there are over 500 fluorosis foci on Earth.

Fluorine enters the human body via food (1.0-1.6 mg) as well as water (2.5-3.0 mg). Fluorine is absorbed more slowly in food than in water. Fluorine is known to be eliminated through the sweat glands and kidneys, with some remaining in the body. Fluorine concentrations in water are authorized by state standards to be up to 2 mg/l, however fluorosis can develop even with this threshold. According to state regulations, the maximum fluorine content in the water supply is 1.5 mg/l. It should be noted that fluorosis frequently occurs at this dose teeth.

At a fluorine concentration in water of 1.0-1.5 mg/l, fluorosis is observed in 30% of the population, at 1.5-2.0 mg/l - 30-40%, at 2.0-3.0 mg/l l in 80-90% of the population of the endemic area.

The cause of fluorosis and its impact on enamel are not entirely known. Fluorine's toxicity can cause a shift in ameloblast, halting the growth of enamel prisms.

There are severe clinical lesions of the teeth in places with a high fluorine concentration as well as a small alteration in dentition. This implies that it is determined by the body's responsiveness, age, and immunity.

In 2019-2020 (1 square) we investigated around 100 individuals with fluorosis aged 20-40 years. There were 42 individuals with mild fluorosis (spotted form), 43 patients with moderate fluorosis (chalky-speckled form), and 5 patients with severe fluorosis (erosive form).

The study's goal is to determine the prevalence of fluorosis types in children in the Bukhara area and city, as well as preventative methods.

Methods and materials

A survey of 448 children from three districts of the Bukhara region and the city of Bukhara (Jondor, Alat, Karakul, and the city of Bukhara) was done.

130 (29%) of the 448 children were checked in the Alat region, 110 (24.5%) in the Zhondor region, 105 (23.4%) in the Karakul region, and 103 (23%) in the city of Bukhara. Out of 130 youngsters in the Alat area of the Bukhara region, 60 (46.1%) had a moderate type of dental fluorosis (spotted, dashed, chalky-speckled, and erosive form) (28 boys - 47%, 32 girls - 53%). Dental fluorosis with spotty and dashed appearance was discovered in 52 (47.2%) of 110 youngsters in the Jondor area of the Bukhara region. There were 23 males (44%), and 29 girls (56%).

A dashed, speckled, and chalky-mottled type of fluorosis was discovered in 40 youngsters (39%), (15 boys - 37.5%, 25 girls - 62.5%) from the Karakul area of the Bukhara region. Fluorosis of the

dashed and spotted forms was discovered in 20 (19.4%) of the 103 children evaluated in Bukhara. Of them, 10 males (50%) and 10 girls (50%) were selected. According to the categorization of Patrikeyev V.K., all investigated children from three districts of the Bukhara area and the city of Bukhara exhibited a moderate form of dental fluorosis (dashed and spotted) Fig. 1 and 2, a chalk-speckled (Fig. 3) and an erosive form (Fig. 4).

Thus, the total number of children with dental fluorosis was 172 children.

Fig.1. Dashed form of fluorosis

Fig.2. Chalky form of fluorosis

Fig.3 Chalky-mottled form of fluorosis

Fig.4. Erosive form of fluorosis.

Results and discussion

An analysis of the clinical examination data showed that in terms of the prevalence of forms of dental fluorosis in children, the spotted form (50.3%), the dashed form (36%), the chalky-speckled form (7%) and the erosive form (6%) occupied the leading position.

The spotty form had first position in clinical presentations in children during the removable and permanent dentition periods. Out of n=60 children in the Alat area, the spotted form of fluorosis was discovered in (50%, n=30), the dashed form in (30%, n=18), and the chalk-speckled and erosive forms in (10%, n=6). The spotted type of fluorosis was detected in n=25 (48%) of 52 children in the Zhondor area, while the dashed form was found in n=19 (36%) youngsters, as well as the (10%, n=5) chalky-speckled and (6%, n =3) erosive forms.

The spotty form had first position in clinical presentations in children during the removable and permanent dentition periods. Out of n=60 children in the Alat area, the spotted form of fluorosis was discovered in (50%, n=30), the dashed form in (30%, n=18), and the chalk-speckled and erosive forms in (10%, n=6). The spotted type of fluorosis was detected in n=25 (48%) of 52 children in the Zhondor area, while the dashed form was found in n=19 (36%) youngsters, as well as the (10%, n=5) chalky-speckled and (6%, n =3) erosive forms.

According to clinical data, a large percentage of the occurrence of the spotted form of fluorosis was observed in children of the Alat region and the city of Bukhara (50%), in the Zhondor region (48%), and the smallest percentage was observed in children of the Karakul region (17.5%). A large percentage of the dashed form was found in children from the Karakul district (67.5%) of the Bukhara region, (40%) in children from the city of Bukhara, (36% in children from the Jondor district), and (30% in children from the Alat district of the Bukhara region.

The chalk-speckled type of fluorosis was detected in the same percentages (10%) in children from all areas of the Bukhara region and the city of Bukhara.

The Alat region (10%) had the highest rate of incidence of the erosive type of fluorosis, followed by the Zhondor region (6%) and the Karakul region (5%) of the Bukhara region. The erosive type of fluorosis was not detected in the city of Bukhara.

Thus, the number of children with dental fluorosis and its many forms is increasing at the moment, confirming the necessity of preventative measures and treatment of a difficult form of this disease.

One of the promising possibilities for the secondary prevention of dental fluorosis in children is the use of a novel remineralizing gel GC MI Paste as an application and Supradin Kids within.

The proprietary component PP-ACP (Recaldent) obtained from milk is found in GC MI Paste Remineralizing Gel. It generates a biological protective coating on the tooth's surface, shielding the enamel from damage.The gel is intended to prevent and cure early stage caries, dental fluorosis, restore mineral balance, and assist reduce tooth sensitivity to cold and heat. Because the paste contains no fluorine, it is suitable for youngsters.

Promotes the formation of tooth enamel, protects milk teeth from the effects of acids, fights early caries.

The paste has a light unobtrusive taste of yogurt. Used in the form of applications. Improves enamel quality and maintains oral health.

Applied via application.

This product contains no fluorine. It is appropriate for children, even milk teeth.

Tablets Supradin kids fish is a dietary supplement (BAA) that adds choline, vitamins C, B6, B12, and nicotinamide (nicotinamide) to meals.

Omega-3 fatty acids are important structural components of tissue cell membrane phospholipid layers. It is essential for the brain and retina of the eyes as a physiologically vital nutrient for the optimal functioning of the central nervous system and visual apparatus.

Choline is required for the body's development, growth, and performance maintenance.

After brushing the teeth with a fluoride-free toothpaste, GC MI Paste the size of a large pea was squeezed onto a dry toothbrush or finger (a strip of about 1 cm, 0.3 g of paste) (Fig. 5.). Spread the paste off the surface of the teeth and rub gently. We kept it for 3 minutes without spitting, as saliva increases the effectiveness of the gel. After 3 minutes, saliva was gently spit out. Children were asked to refrain from eating and drinking for 30 minutes. After 30 minutes, rinse your mouth with a little water.

Fig.5. Remineralizing Gel GC MI Paste

Recommended to use in the morning and evening.

"Supradin kids" was prescribed (1 tablet 3 times a day for 4 weeks).

In the first three months of therapy in the Alat area, 20% of children showed a partial improvement in color following enamel remineralization, while 40.8% showed a partial improvement in color after five months. For three months, a modest improvement in color was noticed in 30.6% of the Zhondor area. 50.4% of people had a partial improvement in their tooth color after 5 months. After 3 months

in the Karakul area, 37.2% of the spots had a partial change in color at 5 months. In 44.4% of the youngsters, there was some discolouration. After 3 months in the city of Bukhara, 47.2% of the patches had a partial change in hue after 5 months. Partial discoloration was observed in 64.4% of children.

At 6 months, n=50 (83.3%) of 60 (46.1%) children in the Alat area showed a partial improvement in the color of dental stains. There were n=30 (60%) children with spotted fluorosis and n=20 (40%) children with dashed fluorosis.

In the Zhondor district, 52 (47.2%) of the children with spotted fluorosis, 31 (60%) of the children with dashed fluorosis, and 21 (40%) of the children with dashed fluorosis showed a partial improvement in the color of the spots. In the Karakul region, a partial improvement in the color of spots with a spotted form of fluorosis was seen in n=15 (37.5%) of the studied children, a dashed form was detected in n=10 (25%) of the children, and a chalk-mottled form was observed in n=2(5%).

In the city of Bukhara, out of n=20 (19.4%) children, a partial improvement in the color of the spots was observed with a spotted form in n=9 (45%), with a dashed form in n=7 (35%), a chalk-speckled form in n= 1 (5%) children.

Based on the findings, we believe that the most appropriate and successful remineralizing treatment for spotted, streaked, and chalky-mottled fluorosis.

It is required to observe the patient for one year and to schedule a monthly general remineralizing therapy every three months with GC MI Paste remineralizing gel. In every situation, this strategy yields positive outcomes.

Conclusions

1. 130 (29%) of the 448 children were checked in the Alat region, 110 (24.5%) in the Zhondor region, 105 (23.4%) in the Karakul region, and 103 (23%) in the city of Bukhara. Out of 130 youngsters in the Alat area of the Bukhara region, 60 (46.1%) had a moderate type of dental fluorosis (spotted, dashed, chalky-speckled, and erosive form) (28 boys - 47%, 32 girls - 53%). Of 110 children in the Jondor district of the Bukhara region, dental fluorosis with spotted and dashed form was detected in 52 (47.2%) children. Of these (23 boys - 44%, 29 girls - 56%). Out of 105 children of the Karakul district of the Bukhara region, a dashed, spotted and chalky-mottled form of fluorosis was detected in 40 children (39%), (15 boys - 37.5%, 25 girls - 62.5%). Of the 103 examined children in the city of Bukhara, fluorosis of the dashed and spotted form was detected in 20 (19.4%) children. Of these (10 boys - 50%, 10 girls - 50%).
2. The spotty form had first position in clinical presentations in children during the removable and permanent dentition periods. Out of n=60 children in the Alat area, the spotted form of fluorosis was discovered in (50%, n=30), the dashed form in (30%, n=18), and the chalk-speckled and erosive forms in (10%, n=6). The spotted type of fluorosis was detected in n=25 (48%) of 52 children in the Zhondorsky area, while the dashed form was found in n=19 (36%) youngsters, as well as the (10%, n=5) chalky-speckled and (6%, n =3) erosive forms. In the Karakul region, out of n=40 children, the dashed form was observed in n=27 (67.5%), the spotted form was observed in n=7 (17.5%) and the chalky-speckled form was observed in n=4 (10%), while the erosive form occurred in n=2 (5%) children. In the city of Bukhara, out of 20 children, the spotted form of fluorosis was found in n=10 (50%), the dashed form was found in n=8 (40%) children, in (10%, n=2) the chalky-mottled form, while the erosive form of fluorosis was not observed.
3. Supradin kids 1 tablet 2 times a day for 4 weeks + MI was also administered to children. During the observation period, Tooth Mousse gel (daily for 4 weeks) demonstrated the most positive dynamics in the level of cleanliness index, the level of enamel durability.

References

1. Taylakova D. I, Vokhidov U. G. Methods Of Secondary Prevention Of Fluorosis In Children Living In The Districts Of The Bukhara Region/ Journal of Pharmaceutical Negative Results, Vol. 13 SPECIAL ISSUE 09 (2022). - P. 4776-4780
2. Taylakova D.I., Murtazaev S.S. Analysis of anamnestic data and diseases of hard dental tissues in school-age children/EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE. 2022., - P. 88-91.
3. Тайлакова Д.И, Ширинова Ш.Б. Влияние пестицидов и минеральных удобренийокружающей среды на гистогенез зубов у экспериментальных крыс / INNOVATIVE DEVELOPMENTS AND RESEARCH IN EDUCATION. –С.65-73.Канада.23.02.2023.
4. Taylakova D.I. “Remineralizing prevention of dental hard tissues diseases in children with cleft lip and palate”/ “O‘zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar” jurnali.20.02.2023. O‘zbekiston.-P. 468-475.
5. Taylakova D.I, KamilovKh.P, Kasymov M.M. The prevalence of systemic hypoplasia in children depending on the adverse environmental conditions and their prevention / INTERNATIONAL JOURNAL FOR SOCIAL STUDIES. – 2019. - Vol 5 (4) - P. 25-33.
6. Taylakova D.I, KamilovKh.P. The influence of some environmental pollutants on the histogenesis of teeth in experimental rats EUROPEN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH. – 2018. - Vol. 5 (11). - P. 255-258.
7. Hypoplasia in Children Of The Bukhara Region And Measures For Their Prevention / 4TH INTERNATIONAL EDUINDEX MULTIDISCIPLINARY CONFERENCE. – 2019. - P. 39-43.