



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

UDK: 616.314-002.4-053.2:616-084

BOLALARDA TISH KARIYESINING RIVOJLANISHIGA TA'SIR ETUVCHI OMILLAR VA ZAMONAVIY PROFILAKTIKA USULLARI

Ziyodullayev Samariddin Sanjarovich

Termiz iqtisodiyot va servis universiteti stomatologiya mutaxassisligi magistranti

Musayeva Saodat To'rayevna

Termiz iqtisodiyot va servis universiteti Stomatologiya fanlar kafedrası o'qituvchisi



ANNOTATSIYA

Maqolada bolalarda tish kariyesining rivojlanishiga ta'sir etuvchi biologik, xulq-atvor, ovqatlanish va ijtimoiy-iqtisodiy omillar hamda zamonaviy profilaktika usullari dalillarga asoslangan stomatologiya nuqtayi nazaridan tahlil qilindi. Tadqiqot birlamchi klinik tajriba emas, balki Jahon sog'liqni saqlash tashkiloti ma'lumotlari, 2023–2026-yillarda chop etilgan sistematik sharhlar, meta-tahlillar va O'zbekiston mualliflarining bolalar stomatologiyasi bo'yicha ilmiy ishlariga asoslangan ikkilamchi dalillar sintezidir. WHO ma'lumotlariga ko'ra, davolanmagan sut tishlari kariyesi dunyo bo'yicha 514 million bolaga ta'sir qiladi. 2024-yilgi oziqlanish omillari meta-tahlilida noto'g'ri oziqlantirish amaliyoti erta bolalik kariyesi (ECC) bilan OR 3,64, yuqori shakar iste'moli OR 3,24 va mevasabzavotning kam iste'moli OR 2,71 darajasida bog'langan. Tungi emizish bo'yicha boshqa 2024-yilgi meta-tahlilda ECC xavfi RR 2,35 bo'lgan. Profilaktikada ftorli tish pastasi, professional ftorli lak, fissura germetiklari, silver diamine fluoride (SDF), ota-onalarni o'qitish va riskga asoslangan recall tizimi asosiy yo'nalishlar sifatida ajratildi. Ftorli lakning klassik pooled prevented fraction ko'rsatkichi doimiy tish sirtlarida 46% va sut tishlarida 33% bo'lgan; 2025-yilgi zamonaviy review esa 14 RCT va 13 mingdan ortiq bolada uning xavfsiz va samarali ekanini tasdiqlaydi. Fissura germetiklari doimiy molyarlarda 36 oygacha kariyes xavfini kamaytirgan, SDF bo'yicha 2024-yilgi sistematik sharhlar esa kariyesni to'xtatishda izchil foyda ko'rsatgan. Natijalar bolalar kariyesi profilaktikasi bitta muolaja emas, balki shakar ekspozitsiyasini kamaytirish, ftor, germetik, SDF va ota-onalarni ishtirokini birlashtiruvchi ko'p bosqichli model bo'lishi kerakligini ko'rsatadi.

Kalit so'zlar: bolalar stomatologiyasi, tish kariyesi, erta bolalik kariyesi, shakar, og'iz gigiyenasi, ftorli lak, fissura germetiklari, silver diamine fluoride, risk assessment, profilaktika.

АННОТАЦИЯ

В статье анализируются биологические, поведенческие, пищевые и социально-экономические факторы развития кариеса у детей, а также современные методы профилактики. Исследование представляет собой синтез вторичных доказательств на основе данных Всемирной организации здравоохранения, систематических обзоров и метаанализов 2023–2026 гг., а также публикаций авторов из Узбекистана. По данным WHO, нелеченый кариес временных зубов затрагивает около 514 млн детей. Метаанализ 2024 года показал связь раннего детского кариеса с неблагоприятными практиками кормления (OR 3,64), высоким потреблением сахара (OR 3,24) и низким потреблением фруктов и овощей (OR 2,71). Ночное грудное вскармливание в



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

другом метаанализе ассоциировалось с RR 2,35. Основными профилактическими стратегиями являются фторсодержащая зубная паста, профессиональный фторлак, герметизация фиссур, диаминфторид серебра (SDF), обучение родителей и риск-ориентированный recall. Профилактика должна представлять собой комплексную программу, а не отдельную процедуру.

Ключевые слова: детская стоматология, кариес зубов, ранний детский кариес, сахар, гигиена полости рта, фторлак, герметизация фиссур, диаминфторид серебра, оценка риска, профилактика.

ABSTRACT

This article examines biological, behavioral, dietary, and socioeconomic determinants of dental caries in children and reviews contemporary preventive strategies from an evidence-based dentistry perspective. It is a secondary evidence synthesis based on World Health Organization data, systematic reviews and meta-analyses published from 2023–2026, and selected Uzbek pediatric dentistry literature. WHO estimates that untreated caries in primary teeth affects approximately 514 million children worldwide. A 2024 meta-analysis found strong associations between early childhood caries (ECC) and adverse feeding practices (OR 3.64), high sugar intake (OR 3.24), and low fruit and vegetable intake (OR 2.71). Another 2024 meta-analysis reported an increased ECC risk with nocturnal breastfeeding (RR 2.35). Modern prevention includes fluoride toothpaste, professional fluoride varnish, pit-and-fissure sealants, silver diamine fluoride (SDF), caregiver education, and risk-based recall. Classical pooled estimates for fluoride varnish indicate prevented fractions of 46% for permanent tooth surfaces and 33% for primary tooth surfaces, while newer reviews continue to support fluoride varnish delivery in children. Sealants reduce caries risk in permanent molars, and SDF provides a minimally invasive option for arresting lesions. Effective prevention therefore requires an integrated, risk-based strategy combining dietary control, fluoride exposure, sealants, SDF, and caregiver engagement.

Keywords: pediatric dentistry, dental caries, early childhood caries, sugar, oral hygiene, fluoride varnish, fissure sealants, silver diamine fluoride, caries risk assessment, prevention.

KIRISH

Tish kariyesi bolalik davrida eng ko'p uchraydigan surunkali kasalliklardan biri bo'lib, og'riq, ovqatlanishning buzilishi, uyqu va maktab faolligining pasayishi, erta tish yo'qotilishi hamda keyingi ortodontik muammolarga olib kelishi mumkin. Kasallik biologik jihatdan biofilm-mediatorli, shakar bilan boshqariladigan, tish qattiq to'qimalarining demineralizatsiyasi va remineralizatsiyasi o'rtasidagi muvozanat buzilishi natijasida rivojlanadigan dinamik jarayondir.

WHOning global oral health hisobotiga ko'ra, davolanmagan sut tishlari kariyesi dunyo bo'yicha 514 million bolaga ta'sir qiladi. Bu bolalar kariyesini alohida individual klinik muammo emas, balki jamoat salomatligi muammosi sifatida ko'rish zarurligini ko'rsatadi. Kariesning katta qismi oldini olish mumkin bo'lsa-da, profilaktik xizmatlarga teng kirish imkoniyati, sog'lom ovqatlanish va ftor ekspozitsiyasi mamlakatlar hamda ijtimoiy qatlamlar bo'yicha notekis.

Erta bolalik kariyesi (ECC) odatda 71 oylik yoki undan kichik bolaning sut tishida kamida bitta kavitasialangan yoki non-kavitasialangan kariyes lezyoni, kariyes sabab yo'qotilgan yoki plombalangan sirt mavjudligi bilan aniqlanadi. ECC tez progressiyalanuvchi bo'lishi mumkin, chunki sut tishlari emali va dentini yupqaroq, bolalarda shirin ichimliklarni tez-tez iste'mol qilish odati mavjud va gigiyena ko'pincha ota-onaning nazoratiga bog'liq.

Karies rivojlanishida birlamchi biologik mexanizm fermentatsiyalanadigan uglevodlar, xususan erkin shakarlarni tez-tez qabul qilishdan keyin dental biofilm pHining tushishidir. Streptococcus mutans va boshqa acidogenic/aciduric mikroorganizmlar shakarni metabolizatsiya



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

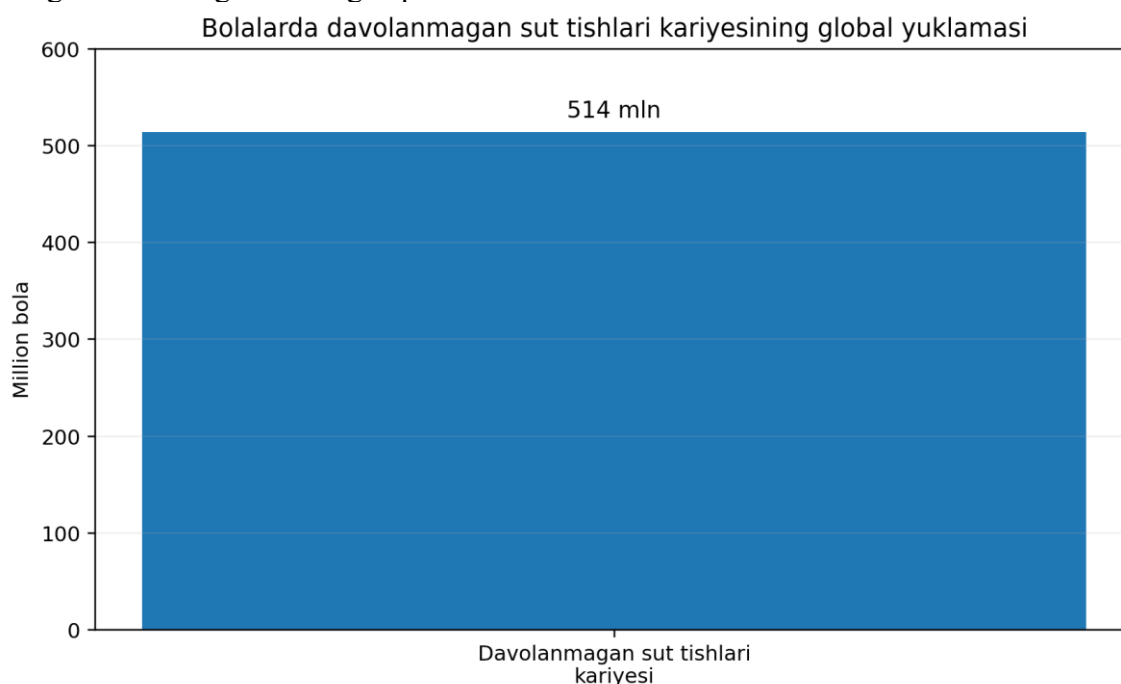
qilib organik kislotalar hosil qiladi; pHning takroriy pasayishi emal mineralining yo'qolishiga olib keladi.

Biroq zamonaviy caries risk assessment yondashuvi kariyesni faqat bakteriya yoki shakar bilan izohlamaydi. Oldingi kariyes tajribasi, faol white-spot lezyonlar, ko'rinadigan plaque, enamel defects, fluoride exposure, tish yuvish chastotasi va nazorati, bottle/feeding habits, dental home yo'qligi va socioeconomic status birgalikda riskni belgilaydi.

2024-yilgi risk omillari sistematik sharhi 6 yoshgacha bo'lgan bolalarda yosh, ijtimoiy-iqtisodiy holat, supervised toothbrushing, fluoride exposure, breast/bottle feeding, feeding habits, dental home, oldingi kariyes, faol non-cavitated lesions, visible plaque, enamel defects va oral microbiome'ni dalilga ega risk faktorlar sifatida ko'rsatgan.

O'zbekiston sharoitida ham bolalar kariyesi profilaktikasi dolzarb. Khayitova (2025) fissuralarni muhrlashning ahamiyatini, Tursunaliyev va Ergashev (2025) ftor va og'iz gigiyenasining o'rnini, Soliyev va Safarov (2025) esa Navoiy viloyatida bolalar kariyesining profilaktik va ijtimoiy ahamiyatini ta'kidlagan.

Tadqiqotning maqsadi bolalarda tish kariyesining rivojlanishiga ta'sir etuvchi asosiy xavf va himoya omillarini zamonaviy dalillar asosida tizimlashtirish, ftorli lak, fissura germetiklari, SDF, ota-ona ta'limi va xulq-atvor profilaktikasining samaradorligini qiyosiy baholash hamda klinik va jamoat salomatligi uchun riskga asoslangan profilaktika modelini taklif etishdan iborat.



1-rasm. Davolanmagan sut tishlari kariyesining global yuklamasi. Manba: WHO Global Oral Health Status Report.

METODOLOGIYA VA ADABIYOTLAR TAHLILI

Ushbu ish birlamchi klinik tadqiqot emas, balki ikkilamchi dalillar sintezidir. Asosiy manbalar sifatida WHO oral health materiallari, bolalar kariyesining risk omillari bo'yicha sistematik sharh/meta-tahlillar, ftorli lak, fissura germetiklari va silver diamine fluoride bo'yicha zamonaviy sistematik sharhlar va Cochrane materiallari hamda O'zbekiston mualliflarining bolalar stomatologiyasi bo'yicha maqolalari tanlandi.

Risk omillari odds ratio (OR), risk ratio (RR) yoki sifatli dalil kuchi bilan baholandi. Profilaktik metodlar esa yangi kariyes incidence, prevented fraction, caries arrest, RCTlar soni, follow-up va adverse effectlar bo'yicha qiyoslandi. Ushbu ko'rsatkichlar turli tadqiqot dizaynlaridan olingani sababli ularni bitta umumiy effect sizga sun'iy birlashtirish qilinmadi.



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

2024-yilgi oziqlanish omillari bo'yicha sistematik sharh va meta-tahlil 443 topilmadan 6 kohort tadqiqotni yakuniy tahlilga kiritgan. Noto'g'ri feeding practice ECC bilan OR 3,64, shakar iste'moli OR 3,24 va meva-sabzavotning kam iste'moli OR 2,71 darajasida bog'langan. Bu natijalar shakar miqdoridan tashqari uning berilish shakli va chastotasi ham muhimligini ko'rsatadi.

Breastfeeding va ECC bo'yicha 2024-yilgi meta-tahlil 31 tadqiqot va 15 236 maktabgacha yoshdagi bolani qamrab olgan. Mualliflar tungi emizishni ECC bilan RR 2,35 darajasida bog'lagan. Biroq breastfeedingning o'zi universal zararli omil deb talqin qilinmasligi kerak; risk asosan uzoq davom etuvchi, ayniqsa tungi, tish chiqib bo'lgan davrdagi tez-tez emizish va boshqa shakar ekspozitsiyasi bilan kontekstda baholanadi.

Ijtimoiy determinantlar ham bolalar kariyesida muhim. 2024-yilgi Yevropa meta-tahlilida 36 mamlakatdan 493 360 nafar 12 yoshli bola ma'lumotlari tahlil qilingan va yuqori daromadli mamlakatlarda poor oral health odds o'rta daromadli mamlakatlarga nisbatan taxminan 90% past bo'lgan. Bunday farq stomatologik xizmat, fluor ekspozitsiyasi, ota-ona ta'limi va sog'lom ovqat tanloviga kirish orqali vositalanishi mumkin.

Ftorli lak professional profilaktikaning eng yaxshi o'rganilgan usullaridan biridir. Klassik Cochrane tahlilida doimiy tish sirtlarida pooled prevented fraction 46%, sut tishlarida 33% bo'lgan. 2025-yilgi school-based systematic review 14 RCT va 13 mingdan ortiq bola ma'lumotlarini birlashtirib, ftorli lak qo'llangan guruhlarda kariyes xavfi izchil past bo'lganini qayd etgan.

Fissura germetiklari anatomik chuqur fissuralarni biofilm va fermentatsiyalanadigan substratdan izolyatsiya qiladi. 2024-yilgi umbrella review 7 sistematik sharhni baholab, doimiy molyarlarda 36 oygacha sealant qo'llash no-usega nisbatan kariyes xavfini sezilarli kamaytirganini ko'rsatgan. Sut molyarlari bo'yicha dalillar esa nisbatan noaniq.

SDF minimal invaziv kariyes managementning muhim usulidir. 2024-yilgi pediatrik sistematik sharh 16 RCTni, boshqa 2024-yilgi sharh esa 15 tadqiqot va 7895 bolani qamrab olgan; ko'pchilik tadqiqotlarda SDF karies progressionni to'xtatishda samarali bo'lgan. Asosiy klinik kamchiligi kariyesli dentinning qora rangga bo'yalishidir.

Omil	Dalil natijasi	Klinik talqin
Noto'g'ri feeding practice	OR 3,64 (95% CI 2,03–6,55)	Bottle/feeding chastotasi va tarkibini risk assessmentga kiritish
Yuqori shakar iste'moli	OR 3,24 (95% CI 2,59–4,03)	Shakar chastotasini kamaytirish markaziy profilaktika
Meva-sabzavot kamligi	OR 2,71 (95% CI 1,47–5,01)	Umumiy ovqatlanish sifati ham muhim
Tungi emizish	RR 2,35 (95% CI 1,42–3,89)	Tish chiqqandan keyin tungi feeding kontekstini baholash
Past SES/deprivation	Izchil yuqori kariyes burden	Upstream public-health profilaktikasi zarur
Oldingi kariyes / faol lezyon	Kuchli risk indikator	Recall va professional profilaktikani kuchaytirish
Visible plaque / past brushing nazorati	Risk indikator	Ota-ona yordamidagi brushing muhim

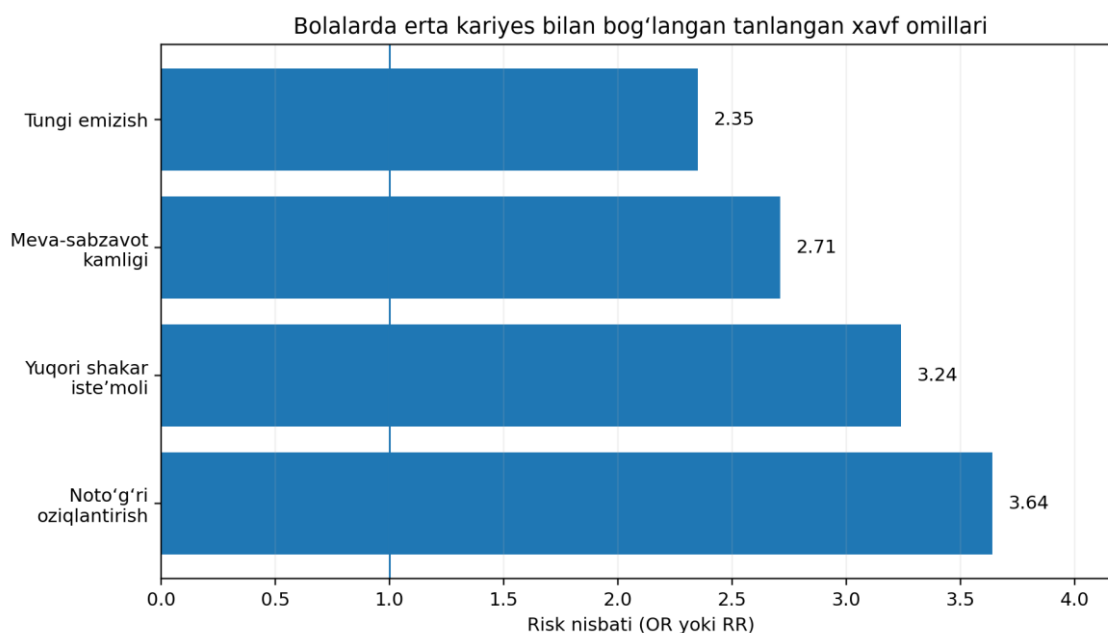
1-jadval. Bolalarda tish kariyesining asosiy xavf omillari.



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740



2-rasm. Erta bolalik kariyesi bilan bog'langan tanlangan xavf omillarining nisbiy kuchi.

NATIJALAR

Dalillar sintezi bolalar kariyesining eng kuchli boshqariladigan determinantlari ovqatlanish va ftor ekspozitsiyasi ekanini ko'rsatdi. Noto'g'ri feeding pattern va tez-tez shakar iste'moli OR 3 dan yuqori effekt bilan bog'langan. Bu klinik profilaktikada faqat "shirinlik yemang" degan umumiy tavsiya yetarli emasligini, shakarni qabul qilish chastotasi, ichimlik shakli, tungi bottle/feeding va ota-onaning real odatlari alohida so'ralishi kerakligini ko'rsatadi.

Risk domeni	Yuqori risk belgisi	Himoya omili	Amaliy profilaktika
Ovqatlanish	Kun davomida tez-tez shakar/snack	Shakar ekspozitsiyasi kamaytirilgan	Ovqat oralig'idagi shakar chastotasini kamaytirish
Feeding	Shirin ichimlik bottle, tungi feeding	Suv, ovqatlanish tartibi	Tungi feedingdan keyin og'iz gigiyenasi / risk counselling
Gigiyena	Nazorat qilinmaydigan brushing	Ota-ona nazoratidagi 2x/kun brushing	Yoshga mos ftorli pasta
Fluoride	Past exposure	Ftorli pasta/lak	Riskga mos professional varnish
Tish morfologiyasi	Chuqur pits/fissures	Sealant	Doimiy molyarlarda erta fissure sealing
Oldingi kariyes	dmft/active lesions	Erta non-invasive management	Qisqa recall, varnish/SDF/sealant
Ijtimoiy omil	Past dental access/SES	School/community program	Jamoaviy profilaktika

2-jadval. Risk domenlari va mos profilaktik javoblar.

Ftorli lakning klinik samarasi doimiy va sut tishlarida isbotlangan. Klassik pooled hisoblarda doimiy tish sirtlarida kariyes incrementining 46%, sut tishlarida 33% oldi olingan. Zamonaviy maktab dasturlarida ham ftorli lak qo'llangan bolalarda controlsga nisbatan kariyes xavfi pastroq bo'lishi qayd etilmoqda.

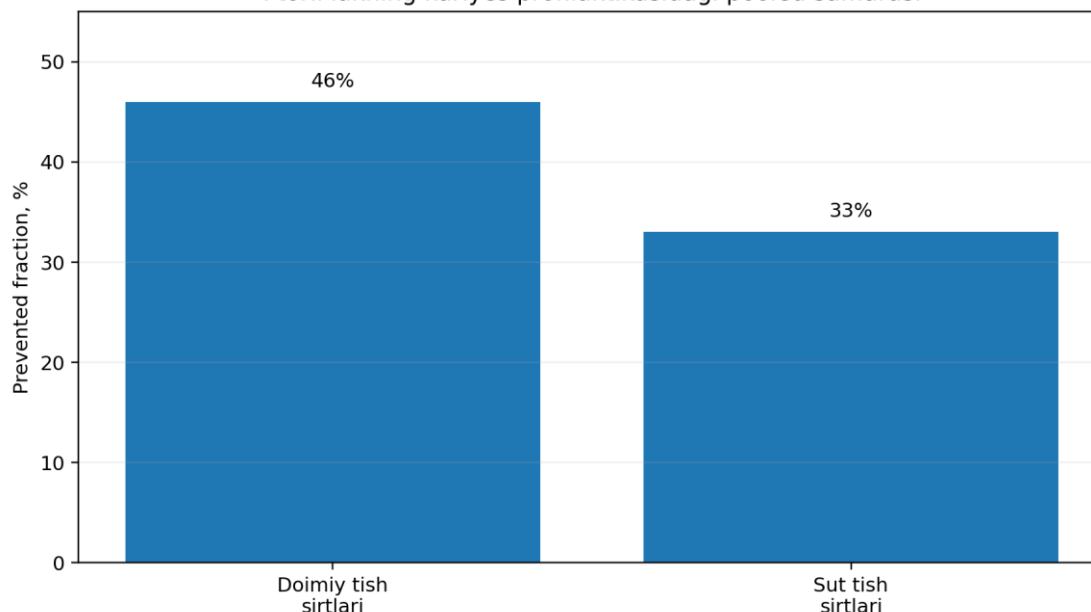


URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

Ftorli lakning kariyes profilaktikasidagi pooled samarasi



3-rasm. Ftorli lakning kariyes profilaktikasidagi pooled prevented fraction ko'rsatkichlari.

Fissura germetiklari ayniqsa yangi chiqqan doimiy birinchi va ikkinchi molyarlarning okklyuzal yuzalarida samarali. 2024-yilgi umbrella reviewda 7 sistematik sharh kiritilib, doimiy molyarlarda 36 oygacha sealant qo'llangan guruhlarda no-use bilan solishtirganda kariyes xavfi sezilarli past bo'lgan. Sealant samaradorligi materialning retentioni va muntazam nazoratga bog'liq.

Profilaktika usuli	Dalil bazasi	Asosiy natija	Asosiy cheklov
Ftorli tish pastasi	Keng va yuqori darajadagi dalil	Kundalik remineralizatsiya va demineralizatsiyani kamaytirish	Yoshga mos doza va yutib yuborish nazorati
Ftorli lak	RCTlar + systematic reviews	Permanent surfaces PF ~46%; primary ~33%	Takroriy professional qo'llash kerak
Fissura germetiklari	7 SR umbrella review; 25 SR overview	Permanent molarlarda no-usega nisbatan risk kamayadi	Retention va follow-up muhim
SDF	16 RCT review; 15 study/7895 children review	Caries arrestda izchil foyda	Qora staining
Ota-ona ta'limi	Systematic evidence	Caregiver education ECC riskini kamaytirishi mumkin	Xulq-atvorni real o'zgartirish qiyin
School-based programs	FV va education studies	Qamrov va tenglikni oshiradi	Dastur dizayni va resursga bog'liq

3-jadval. Bolalar kariyesi profilaktikasining zamonaviy usullari bo'yicha dalillar.

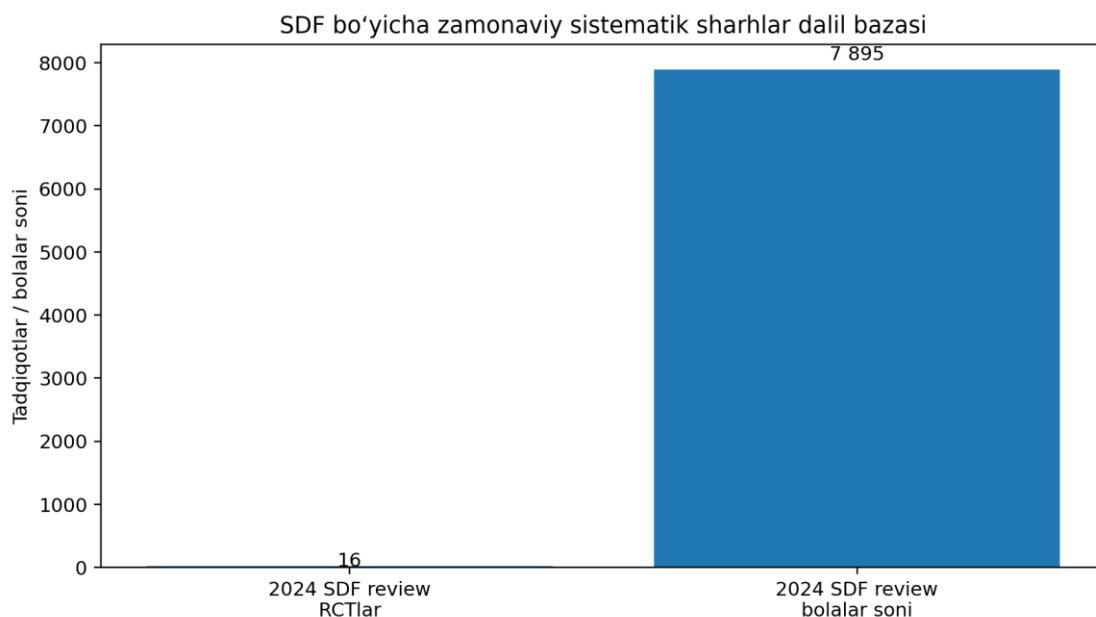
SDF kavitasiyalangan yoki faol kariyes lezyonlarini minimal invaziv usulda to'xtatish uchun ayniqsa kichik yosh, cooperation cheklangan yoki umumiy narkozdan qochish kerak bo'lgan bolalarda foydalidir. 2024-yilgi sharhlarda 16 RCT va alohida 15 tadqiqot/7895 bola tahlil qilingan. Natijalar SDF caries arrest uchun amaliy va iqtisodiy jihatdan jozibador ekanini ko'rsatadi, lekin qora staining ota-onalar bilan shared decision-makingni talab qiladi.



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

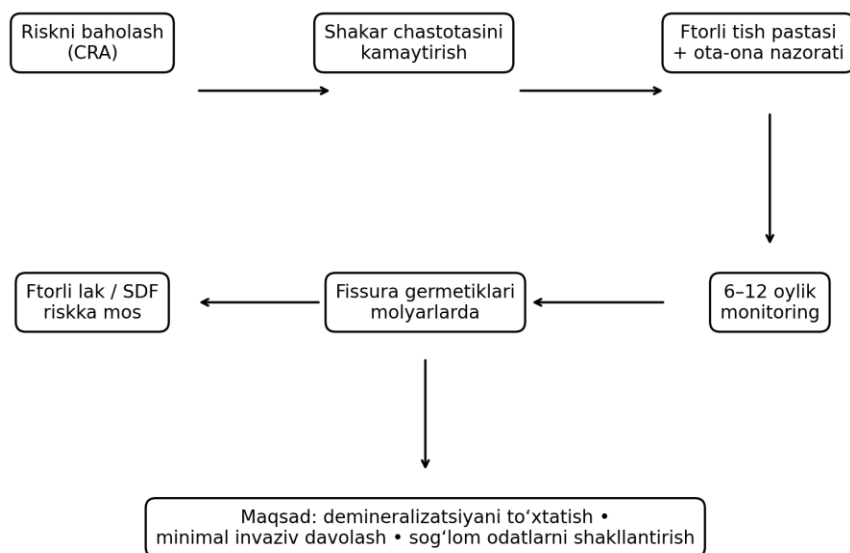
14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740



4-rasm. SDF bo'yicha 2024-yilgi sistematik sharhlar dalil bazasi.

Kariyes profilaktikasining samaradorligi risk stratifikatsiyaga bog'liq. Past riskli bola uchun 2x/kun ftorli pasta, to'g'ri diet va rejalashtirilgan dental ko'rik yetarli bo'lishi mumkin. Yuqori riskli bola esa professional ftorli lak, fissura germetiklari, faol lezyonlarda SDF, qisqa recall va ota-ona bilan intensiv xulq-atvor counsellingini talab qiladi.

Bolalarda kariyes profilaktikasining riskga asoslangan modeli



5-rasm. Bolalarda kariyes profilaktikasining riskga asoslangan modeli. Manba: muallif ishlanmasi.

Risk darajasi	Klinik belgilar	Recall	Profilaktika paketi
Past	Kariyes tarixi yo'q, plaque kam, ftor exposure yetarli	6–12 oy	2x/kun ftorli pasta, dieta, routine exam
O'rta	Plaque, chuqur fissura, occasional sugar, limited prior lesions	6 oy	Ftorli pasta + varnish, fissura sealant, parent education



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

Yuqori	Oldingi/active caries, visible plaque, tez-tez sugar, low fluoride, past SES risk	3–6 oy	Varnish + sealant + SDF kerak bo'lsa, intensive dietary counselling
Juda yuqori / S-ECC	Ko'p aktiv cavitated lesions, pain/infection risk	Individual qisqa interval	Disease control, SDF/minimal invasive care, definitive treatment + intensive prevention

4-jadval. Bolalarda kariyes riskiga moslashtirilgan profilaktik taktika.

MUHOKAMA

Natijalar kariyesning rivojlanishi bitta omil bilan izohlanmasligini ko'rsatadi. Yuqori shakar iste'moli kuchli xavf omili bo'lsa-da, bir xil shakar iste'mol qiladigan bolalarda kariyes burden fluoride exposure, plaque, enamel defects, ota-ona nazorati va socioeconomic environment sabab farqlanadi.

Shakar profilaktikaning markaziy nishoni bo'lishi kerak, ammo amaliy tavsiya miqdordan ko'ra chastotani ham qamrab olishi zarur. Kun davomida ko'p marta shirin snack va ichimlik iste'moli biofilm pHining qayta-qayta kritik darajaga tushishiga olib keladi. Shu sababli shirinlikni asosiy ovqat bilan chegaralash, shakarli ichimlik o'rniga suv berish va tungi bottle habitni tugatish muhim.

Breastfeeding bo'yicha dalillarni ehtiyotkor talqin qilish kerak. Emizish chaqaloq salomatligi uchun ko'plab foydalarga ega va erta davrda kariyes profilaktikasi sabab undan voz kechish tavsiya qilinmaydi. Risk ko'proq tishlar chiqqandan keyingi uzoq muddatli va ayniqsa tungi, tez-tez breastfeeding boshqa cariogenic diet va inadequate brushing bilan birga mavjud bo'lganda ortadi.

Ftorli lak klinik amaliyotda samarali, ammo u shakarli dietani "kompensatsiya qiluvchi" vosita emas. Agar bola kun davomida ko'p marta shakar iste'mol qilsa, professional varnishning foydasi cheklanishi mumkin. Profilaktika doimo etiologik riskni kamaytirish va remineralizatsiyani kuchaytirishni birlashtirishi kerak.

Fissura germetiklari anatomik riskga yo'naltirilgan profilaktika hisoblanadi. Yangi erupsiya qilgan doimiy molyarlarda chuqur fissuralar brushing bilan to'liq tozalanmaydi. Germetik qo'yilgandan keyin retentionni rejalashtirilgan ko'riklarda tekshirish zarur; qisman yo'qolgan sealant "bir marta qo'yildi va unutildi" tamoyili bilan boshqarilmasligi kerak.

SDFning eng katta afzalligi non-invasive caries arrest. Bu cooperationi past bolalar, ko'p lezyonli preschoolers va resurs cheklangan settinglar uchun muhim. Estetik staining esa old tishlarda ota-onalar uchun qabul qilinmasligi mumkin; shu sababli SDFdan oldin informed consent va fotosurat bilan tushuntirish maqsadga muvofiq.

Ijtimoiy determinantlar profilaktikaning klinik chegarasini ko'rsatadi. Past daromadli yoki dental servicega kirishi qiyin oilada individual advice yetarli bo'lmashligi mumkin. School/kindergarten-based fluoride varnish, oral health education va sealant programs profilaktik tenglikni oshiradi.

2024-yilgi caregiver intervention Cochrane review 23 RCT va 25 953 caregiver/bolani o'z ichiga olgan bo'lsa-da, ko'p taqqoslashlarda dalil certainty cheklangan. Bu ota-ona ta'limi keraksiz degani emas; aksincha, educationning ta'siri delivery intensity, follow-up va structural barriers bilan bog'liq ekanini ko'rsatadi.

O'zbekiston uchun muhim yo'nalish maktabgacha ta'lim muassasalari va maktablarda risk-screeningni ftorli lak va fissure sealant dasturlari bilan integratsiya qilishdir. Mahalliy maqolalarda profilaktika vositalari keng muhokama qilinmoqda, ammo hududlar kesimida standart dmft/DMFT, ICDAS va socioeconomic variables bilan prospektiv epidemiologik kuzatuvlar ko'proq kerak.



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

Kelgusi mahalliy klinik tadqiqot uchun bolalarni risk kategoriyalari bo'yicha stratifikatsiya qilib, control, fluoride varnish, sealant va combined intervention guruhlarida 12–24 oy kuzatish mumkin. Birlamchi endpoint yangi dentin kariyesi incidence, ikkilamchi endpoint ICDAS progression, dmfs/DMFS increment, treatment need va parent-reported quality of life bo'lishi lozim.

Profilaktika maqsadi	Eng maqbul vosita	Monitoring
Yangi lezyon paydo bo'lishini kamaytirish	Ftorli pasta + diet + varnish	dmft/ICDAS, 3–12 oy
Okklyuzal fissura riskini kamaytirish	Fissura germetiklari	Retention + caries check
Faol kavitasialangan lezyonni to'xtatish	SDF	Lesion hardness/activity
White-spot remineralizatsiyasi	Fluoride exposure + plaque/diet control	ICDAS activity
Oilaviy xulq-atvorni o'zgartirish	Caregiver counselling	Sugar frequency, brushing supervision
Ijtimoiy tengsizlikni kamaytirish	School/community program	Coverage va new-caries incidence

5-jadval. Profilaktika maqsadi bo'yicha usul tanlash matritsasi.

XULOSA

Bolalarda tish kariyesi keng tarqalgan, ammo katta qismi oldini olish mumkin bo'lgan kasallikdir. WHO ma'lumotiga ko'ra, davolanmagan sut tishlari kariyesi dunyoda 514 million bolaga ta'sir qiladi, bu profilaktik stomatologiyani jamoat salomatligi ustuvor yo'nalishiga aylantiradi.

Zamonaviy meta-tahlillar noto'g'ri feeding practice, yuqori shakar iste'moli va tungi feedingni ECC bilan kuchli bog'laydi. Shu sababli bolalar profilaktikasida shakar chastotasi, tungi bottle/breastfeeding, supervised brushing va fluoride exposure standart risk assessmentning majburiy qismi bo'lishi kerak.

Ftorli tish pastasi kundalik bazaviy profilaktika bo'lib qoladi. Yuqori riskli bolalarda professional ftorli lak qo'shimcha foyda beradi. Doimiy molyarlarda fissura germetiklari samarali anatomik profilaktika vositasi bo'lib, SDF esa faol kariyesni minimal invaziv tarzda to'xtatish uchun muhim variantdir.

Profilaktika samaradorligi alohida preparatdan ko'ra kompleks tizimga bog'liq: diet, brushing, fluoride, sealant, SDF, ota-ona ta'limi va rejalashtirilgan recall bir-birini to'ldiradi. Karies riskiga qarab ushbu komponentlarning intensivligi individualizatsiya qilinishi kerak.

O'zbekiston bolalar stomatologiyasi uchun eng amaliy yo'nalishlar — maktabgacha yoshdan caries-risk screening, ota-onalarni standartlashtirilgan counselling, yuqori riskli bolalarda ftorli lak va SDF, yangi chiqqan doimiy molyarlarda fissura sealing hamda dmft/DMFT va ICDAS asosida hududiy monitoringni kuchaytirishdir.

FOYDALANILGAN ADABIYOTLAR

1. World Health Organization. (2022). Global oral health status report: Towards universal health coverage for oral health by 2030. World Health Organization.
2. World Health Organization. (2025). Oral health: Fact sheet. World Health Organization.
3. Khan, S. Y., et al. (2024). A systematic review of caries risk in children <6 years of age. International Journal of Paediatric Dentistry, 34(4), 410–431. <https://doi.org/10.1111/ipd.13140>
4. Sandy, L. P. A., Helmyati, S., & Amalia, R. (2024). Nutritional factors associated with early childhood caries: A systematic review and meta-analysis. Saudi Dental Journal. <https://doi.org/10.1016/j.sdentj.2023.12.001>



URGANCH DAVLAT TIBBIYOT INSTITUTI JANUBIY OROLBO'YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON-3. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

5. Association of Breastfeeding and Early Childhood Caries: A Systematic Review and Meta-Analysis. (2024). *Nutrients*, 16(9), 1355. <https://doi.org/10.3390/nu16091355>
6. Vukovic, A., Schmutz, K. A., Borg-Bartolo, R., et al. (2025). Caries status in 12-year-old children, geographical location and socioeconomic conditions across European countries: A systematic review and meta-analysis. *International Journal of Paediatric Dentistry*, 35(1), 201–215. <https://doi.org/10.1111/ipd.13224>
7. Marinho, V. C. C., et al. (2002). Fluoride varnishes for preventing dental caries in children and adolescents. *Cochrane Database of Systematic Reviews*.
8. Fluoride varnish for caries prevention in preschoolers: An overview of reviews. (2025). *Community Dentistry and Oral Epidemiology*. <https://doi.org/10.1111/cdoe.70032>
9. Effectiveness of various fluoride varnishes in preventing dental caries in children and adolescents: A systematic review of evidence from educational settings. (2025). *Cureus / systematic review*. PMID: 41362574.
10. Amend, S., Boutsiouki, C., Winter, J., Kloukos, D., Frankenberger, R., & Krämer, N. (2024). Clinical effectiveness of pit and fissure sealants in primary and permanent teeth of children and adolescents: An umbrella review. *European Archives of Paediatric Dentistry*, 25(3), 289–315. <https://doi.org/10.1007/s40368-024-00876-9>
11. de França Leite, K. L., Rodrigues, G. F., Chevitarese, A. B., et al. (2024). Are pit and fissure sealants effective in preventing and arresting occlusal caries in primary and permanent teeth? An overview of systematic reviews. *Journal of Evidence-Based Dental Practice*, 24(3), 102010. <https://doi.org/10.1016/j.jebdp.2024.102010>
12. Muntean, A., Mzoughi, S. M., Pacurar, M., et al. (2024). Silver diamine fluoride in pediatric dentistry: Effectiveness in preventing and arresting dental caries—A systematic review. *Children*, 11(4), 499. <https://doi.org/10.3390/children11040499>
13. Vishwanathaiah, S., Maganur, P. C., Syed, A. A., et al. (2024). Effectiveness of silver diamine fluoride (SDF) in arresting coronal dental caries in children and adolescents: A systematic review. *Journal of Clinical Pediatric Dentistry*, 48(5), 27–40. <https://doi.org/10.22514/jocpd.2024.101>
14. Worthington, H. V., Lewis, S. R., Glenny, A.-M., et al. (2024). Topical silver diamine fluoride (SDF) for preventing and managing dental caries in children and adults. *Cochrane Database of Systematic Reviews*, 11, CD012718. <https://doi.org/10.1002/14651858.CD012718.pub2>
15. Interventions with pregnant women, new mothers and other primary caregivers for preventing early childhood caries. (2024). *Cochrane Database of Systematic Reviews*. PMID: 38753314.
16. Khayitova, M. (2025). Bolalarda karies profilaktikasida fissuralarni muhrlash va ularning ahamiyati. *Modern Science and Research*, 2(5), 504–507. <https://doi.org/10.71337/inlibrary.uz.science-research.87456>
17. Tursunaliyev, Z., & Ergashev, B. (2025). Bolalarda tish kariesini oldini olish usullari. *Modern Science and Research*, 4(4), 686–691. <https://doi.org/10.71337/inlibrary.uz.science-research.78809>
18. Soliyev, A. A. o'g'li, & Safarov, N. N. (2025). Navoiy viloyatida bolalar kariyesining dolzarbligi: stomatologik salomatlik holati va yechimlar. *IQRO Journal*, 16(1), 161–164. <https://doi.org/10.71337/inlibrary.uz.iqro.104347>
19. Anvarjonova, M. A. qizi, & Chalaboyeva, Z. M. qizi. (2025). Tish kariesi: patogenez, profilaktika usullari va kasallikni oldini olishdagi dolzarb muammolar. *Ta'lim, fan va innovatsion g'oyalar dunyosida*, 156–164. <https://doi.org/10.71337/inlibrary.uz.esiiw.124599>
20. Ergashev, B. (2025). Karies kasalligi profilaktikasi va ularni oldini olish usullari. *Modern Science and Research*, 4(4), 715–721. <https://doi.org/10.71337/inlibrary.uz.science-research.78816>