

MAIN ASPECTS IN CARIES DIAGNOSIS

Khalilova Laziza Ravshanovna

Asian International University.

Email: xalilovalaziza5@gmail.com<https://doi.org/10.5281/zenodo.14709407>

Abstract. The rapid development of new technologies, including in medicine, allows modern society to confidently move into the 21st century. However, the solution to one of the most important problems in dentistry (dental caries) remains at the same level: Traditionally, caries is detected already at the stage of a carious cavity and treated by preparation and filling.

It has been proven that dental caries develops over a long period of time and goes through a number of stages until a cavity forms. A very important point is the fact that before the formation of a carious cavity, it is possible to stop the progression of a carious lesion, as well as reverse its development. In addition, new carious lesions may also appear adjacent to existing restorations, which can negatively affect patient satisfaction with the treatment. At the same time, areas of subsurface demineralization of enamel can be successfully identified using modern early diagnostic methods and remineralization of initial caries can be achieved. Thus, the carious process can be controlled and the appearance of a carious cavity can be prevented.

Key words: Diagnosis of dental caries, electroodontodiagnosis (EDD) method, light radiation, laser, non-invasive methods for caries treatment.

ОСНОВНЫЕ АСПЕКТЫ ДИАГНОСТИКИ КАРИЕСА

Аннотация. Стремительное развитие новых технологий, в том числе в медицине, позволяет современному обществу уверенно двигаться в XXI век. Однако решение одной из важнейших проблем в стоматологии (кариес зубов) остается на прежнем уровне: традиционно кариес выявляется уже на стадии кариозной полости и лечится путем препарирования и пломбирования.

Доказано, что кариес зубов развивается в течение длительного периода времени и проходит ряд стадий, пока не образуется полость. Очень важным моментом является тот факт, что до образования кариозной полости можно остановить прогрессирование кариозного поражения, а также обратить его развитие вспять. Кроме того, новые кариозные поражения могут также появляться рядом с имеющимися реставрациями, что может негативно влиять на удовлетворенность пациента лечением. При этом с помощью современных методов ранней диагностики можно успешно выявлять участки подповерхностной деминерализации эмали и добиваться реминерализации начального кариеса. Таким образом, можно контролировать кариозный процесс и предотвращать появление кариозной полости.

Ключевые слова: *Диагностика кариеса зубов, метод электроодонтодиагностики (ЭДД), световое излучение, лазер, неинвазивные методы лечения кариеса.*

Traditionally, clinicians around the world have used criteria adopted by the World Health Organization (WHO) to identify and diagnose dental caries (DCT). But these criteria have a significant drawback: they do not detect focal demineralization in the form of white or pigmented lesions on the surface of the hard tissues of teeth.

A modern approach to diagnosing caries requires the use of new diagnostic criteria that will allow identifying not only carious cavities with destruction of hard dental tissues (“cavitated lesions”), but also diagnosing demineralization of hard tissues before the formation of a carious cavity (“non-cavitated lesions”).

Along with all the well-known visual and instrumental methods of diagnostics and caries, there are diagnostic devices that allowing to identify not only the presence of demineralization of hard tissues, but also to diagnose the stage and activity of the carious process. The most accessible method of hardware diagnostics of caries is the x-ray method, which allows you to identify hidden and secondary carious cavities, but has a number of disadvantages: the negative impact of X-ray radiation, the difficulty of diagnosing the depth of the lesion and the inability to detect focal demineralization. All this reflects the low reliability and diagnostic value of this method. The electroodontodiagnosis (EDD) method allows you to determine the sensitivity threshold of the pulp to electric current. This method is based on irritating the tooth pulp with an electric current and determining the minimum current strength that causes the first (weak) pain sensation. Thus, the diagnosis of caries and its complications is achieved. The disadvantages of the method are: the inability to detect the topography, depth and activity of carious lesions, the difficulty of interpreting the device’s values, and the lack of visual control.

The method of light radiation, represented by the Quantitative Light-induced Fluorescence (QLF) apparatus, is based on the use of the natural ability of hard dental tissues to fluoresce, which decreases with demineralization. The device allows you to diagnose carious lesions at the earliest stages due to the loss of fluorescence in areas of demineralization and identify the localization, area, depth and severity of the carious process, as well as the presence of dental plaque. The method allows you to obtain a color image, which is displayed in real time on the monitor screen and clearly demonstrates to the patient the condition of the oral cavity. In addition, the software can calculate the area of the lesion, the degree of demineralization and the depth, which allows you to visually assess the success of the remineralization over time.

Lasers in dentistry are used for diagnostics and treatment of hard and soft tissues of the oral cavity.

The result of the action of laser radiation on biological tissue depends on the structure and optical-physical properties of the tissue, as well as on the spectral, spatial-energy and temporal characteristics of laser radiation. It is obvious that the competent use of lasers in dentistry is impossible without this knowledge. Luminescent methods for diagnosing caries Laser fluorescent diagnostics of the properties of caries-affected and healthy tooth tissues. Light entering the body can be scattered, absorbed, reflected and fluoresced. Fluorescence is short-term luminescence, fading within seconds after the cessation of ultraviolet irradiation. The ability of a tooth to luminesce under ultraviolet irradiation was first noticed in 1928 . It was noted that healthy tooth tissues luminesce with blue-white light, while in areas affected by caries there is no luminescence.

It has also been shown that tooth dentin luminesces brighter than enamel. After boiling enamel and dentin in a concentrated NaOH solution, no luminescence was detected, which implied that the luminescence was associated with the organic matrix of hard tissues. Since the 1950s, various authors have isolated various fluorophores of an organic nature from dentin, and also obtained data on changes in the fluorescence spectra of carious dentin. Visible luminescence of hard dental tissues can be obtained using visible light as an excitation source. In this case, the luminescence spectrum is shifted to the red side. This effect was the basis for the early diagnosis of initial caries using incoherent and continuous laser sources of the short-wavelength visible part of the spectrum. The use of laser sources, due to their brightness, made it possible to assess the lesion visually under normal external lighting. Irradiation of healthy enamel with an argon laser with a wavelength of 0.488 microns caused it to luminesce with yellow light. For visual assessment, a filter was used that transmitted light with a wavelength greater than 0.540 μm . The area of enamel affected by initial caries looked like a dark spot on a yellow background due to the screening effect on light passing in the forward and reverse directions. The darkness of the stain is due to the blocking of light coming from the luminescent dentin. In this case, the source light reflected by the spot is blocked by a filter through which the tooth is viewed.

Thus, working with the latest diagnostic devices will allow the practitioner to change the fundamental approach to the treatment of caries without preparation and filling while preserving the own hard tooth tissues. Modern technologies undoubtedly provide great opportunities for identifying and assessing carious lesions at the earliest stages and allowing for timely treatment using non-invasive caries treatment techniques.

REFERENCES

1. Ravshanovna, X. L. (2021, June). MINIMALLY INVASIVE METHODS OF TREATMENT OF DENTAL CARIES IN ADULTS. In " *ONLINE-CONFERENCES*" *PLATFORM* (pp. 118-119).

2. Khalilova, L. (2024). GLASS IONOMER CEMENTS USED IN DENTISTRY. *Modern Science and Research*, 3(12), 443-450.
3. Qilichovna, A. M., Nematilloevna, X. M., & Ergashevich, I. I. (2024). THE ROLE OF CARIOGENIC AND PROTECTIVE FACTORS IN THE PREVENTION OF CARIES. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 43(8), 45-51.
4. Qilichovna, A. M., Nematilloevna, X. M., & Ergashevich, I. I. (2024). KARIYESNING OLDINI OLISHDA KARIOGEN VA HIMOYA OMILLARNING ROLI. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 43(8), 52-59.
5. Qilichovna, A. M. (2024). FACTORS CAUSING THE WIDE SPREAD OF DENTAL CARIES. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, 4(4), 154-160.
6. Nematilloevna, X. M., & Qilichovna, A. M. (2024). MORPHO-FUNCTIONAL CHANGES IN ACUTE FORMS OF APHTHOUS STOMATITIS: Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari. *Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari*, 6(4), 177-186.
7. Qilichovna, A. M., & Nematilloevna, X. M. (2024). METABOLIK SINDROMI VA QON BOSIMI BOR BEMORLARDA O'ZGARISH XUSUSIYATLARI BAHOLASH: Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari. *Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari*, 6(4), 187-196.
8. Qilichovna, A. M., & Nematilloevna, X. M. (2024). TIBBIYOT TILI HISOBLANMISH LOTIN TILINI SAMARALI O'RGANISH OMILLARI: Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari. *Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari*, 6(4), 197-206
9. Qilichovna, A. M., & Vahidovna, K. N. (2024). FACTORS CAUSING DISEASES OF PERIODONTAL TISSUES. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, 3(5), 196-201.
10. Qilichovna, A. M., & Abdumutalib o'g'li, U. A. (2024). KARIES PROFILAKTIKASI NAZARIYASI VA AMALIYOTI. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, 3(5), 202-209.
11. Vahidovna, K. N., & Qilichovna, A. M. (2024). FACTORS CAUSING PERIODONTAL TISSUE DISEASES. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, 3(5), 185-195.
12. Qilichovna, A. M. (2024). THEORETICAL FUNDAMENTALS OF CARIES PREVENTION. *Journal of Science in Medicine and Life*, 2(5), 222-226.

13. Qilichovna, A. M., & Safarboy o'g'li, T. S. (2024). 4-AVL0D ADGEZIV SISTEMA. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, 3(5), 307-313.
14. Axmedova, M. (2024). CONDITION OF THE ALVEOLAR PROCESS AND PERIOSTE WHEN USING REMOVABLE DENTURES. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, 4(11), 528-538.
15. Qilichevna, A. M. (2024). COMPARATIVE ANALYSIS OF NUTRITIONAL DISPARITIES AMONG PEDIATRIC POPULATIONS: A STUDY OF CHILDREN WITH DENTAL CAVITIES VERSUS THOSE IN OPTIMAL HEALTH. *Central Asian Journal of Multidisciplinary Research and Management Studies*, 1(2), 30-34.
16. Qilichovna, A. M. (2024). CLINIC FOR PATIENTS WITH DENTURES COMPARATIVE DIAGNOSIS AND PATHOGENESIS. *TADQIQOTLAR*, 30(3), 127-135.
17. Ahmedova, M. (2023). COMPARATIVE ANALYSIS OF NUTRITIONAL DISPARITIES AMONG PEDIATRIC POPULATIONS: A STUDY OF CHILDREN WITH DENTAL CAVITIES VERSUS THOSE IN OPTIMAL HEALTH. *International Bulletin of Medical Sciences and Clinical Research*, 3(12), 68-72.
18. Ahmedova, M. (2023). DIFFERENCES IN NUTRITION OF CHILDREN WITH DENTAL CARIES AND HEALTHY CHILDREN. *International Bulletin of Medical Sciences and Clinical Research*, 3(12), 42-46.
19. Axmedova, M. (2023). TISH KARIESINING KENG TARQALISHIGA SABAB BO'LUVCHI OMILLAR. *Центральноазиатский журнал образования и инноваций*, 2(12), 200-205.
20. Ахмедова, М. (2023). ИСПОЛЬЗОВАНИЕ КОМПЬЮТЕРНЫХ ТЕХНОЛОГИЙ НА ЭТАПАХ ДИАГНОСТИКИ И ПЛАНИРОВАНИЯ ОРТОПЕДИЧЕСКОГО ЛЕЧЕНИЯ НА ОСНОВЕ ЭНДОССАЛЬНЫХ ИМПЛАНТАТОВ. *Центральноазиатский журнал образования и инноваций*, 2(11 Part 2), 167-173.
21. Axmedova, M. (2023). USE OF COMPUTER TECHNOLOGY AT THE STAGES OF DIAGNOSIS AND PLANNING ORTHOPEDIC TREATMENT BASED ON ENDOSSEAL IMPLANTS. *International Bulletin of Medical Sciences and Clinical Research*, 3(11), 54-58.
22. Ахмедова, М. (2020). НАРУШЕНИЯ ЭНДОТЕЛИАЛЬНОЙ ФУНКЦИИ ПРИ РАЗВИТИИ АФТОЗНОГО СТОМАТИТА. *Достижения науки и образования*, (18 (72)), 65-69.
23. Axmedova, M. (2023). THE IMPACT OF SOCIOCULTURAL FACTORS ON THE PERVASIVENESS OF DENTAL CARIES AS A COMPLEX HEALTH CONDITION IN

CONTEMPORARY SOCIETY. *International Bulletin of Medical Sciences and Clinical Research*, 3(9), 24-28.

24. Ахмедова, М. К. (2024). ОБЩИЕ ПРИЧИНЫ КАРИЕСА ЗУБОВ. *Лучшие интеллектуальные исследования*, 14(4), 77-85.
25. Qilichovna, A. M. (2024). CLINICAL SIGNS WHEN ACCOMPANIED BY DENTAL DISEASES AND METABOLIC SYNDROME. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 39(5), 116-24.
26. Ахмедова, М. К. (2024). Профилактика Стоматологических Заболеваний У Беременных. *Research Journal of Trauma and Disability Studies*, 3(3), 66-72.
27. Ахмедова, М. К. (2024). ОСНОВНЫЕ ПРОФИЛАКТИЧЕСКИЕ МЕТОДЫ ТКАНЕЙ ПАРОДОНТА У ДЕТЕЙ И ПОДРОСТКОВ. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 41(5), 254-260.
28. Qilichovna, A. M. (2024). PREVENTION OF PERIODONTAL DISEASES IN CHILDREN AND TEENAGERS. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 41(5), 234-239.
29. Qilichovna, A. M. (2024). PREVENTION OF PERIODONTAL AND GUM DISEASES IN PREGNANT WOMEN. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 41(5), 240-245.
30. Qilichovna, A. M. (2024). HOMILADOR AYOLLARDA TISH VA PARADONT KASALLIKLARINING OLDINI OLISH. *ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ*, 41(5), 246-253.
31. Ахмедова, М. К. (2024). ИЗУЧЕНИЕ ПРИЧИННЫХ ФАКТОРОВ ПАРОДОНТИТА. *Journal of new century innovations*, 49(3), 47-53.
32. Qilichovna, A. M. (2024). TO STUDY THE FACTORS THAT CAUSE PERIODONTITIS. *Journal of new century innovations*, 49(3), 40-46.
33. Qilichovna, A. M. (2024). THE ROLE OF PATHOGENESIS IN THE GROWTH FACTORS OF PERIODONTITIS DISEASE. *Journal of new century innovations*, 49(3), 25-32.
34. Qilichovna, A. M. (2024). TISH KARIYESI BO'LGAN BOLALAR VA SOG'LOM BOLALARNING OVQATLANISHIDAGI FARQLAR. *Ta'limning zamonaviy transformatsiyasi*, 6(2), 213-223.
35. Ахмедова, М. К. (2024). РАЗЛИЧИЯ В ПИТАНИИ ДЕТЕЙ С КАРИЕСОМ ЗУБОВ И ЗДОРОВЫХ ДЕТЕЙ. *Ta'limning zamonaviy transformatsiyasi*, 6(2), 224-234.
36. Ergashevich, I. I., Bahronovich, B. F., & Qilichevna, A. M. (2024). ASTMATIK STATUSDAN BEMORLARNI CHIQRISHNING ZAMONAVIY

ТАМОЙЛЛАРИ. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 43(8), 36-44.

37. Axmedova, M., & Neymatov, D. (2025). TERAPEVTIK STOMATALOGIYADA BEMORLARNI QO'SHIMCHA TEKSHIRISH USULLARI (PARAKLINIK USUL). *Modern Science and Research*, 4(1), 268-278.
38. Axmedova, M., & Neymatov, D. (2025). TERAPEVTIK STOMATALOGIYADA BEMORLARNI ASOSIY TEKSHIRISH USULLARI. *Modern Science and Research*, 4(1), 257-267.
39. Ахмедова, М., Кузиева, М., & Курбанова, Н. (2025). ЗАБОЛЕВАНИЙ ВИСОЧНО-НИЖНЕЧЕЛЮСТНОГО СУСТАВА И ФОРМУЛИРОВАНИЕ ДИАГНОЗА. *Modern Science and Research*, 4(1), 279-289.
40. Axmedova, M. (2025). DISEASES OF THE TEMPOROMANDIBULAR JOINT AND FORMULATION OF DIAGNOSIS. *Modern Science and Research*, 4(1), 290-3.
41. Ахмедова, М., Кузиева, М., & Халилова, Л. (2025). СОСТОЯНИЕ АЛЬВЕОЛЯРНОГО ОТРОСТКА И ПЕРИОСТА ПРИ ИСПОЛЬЗОВАНИИ СЪЕМНЫХ ПРОТЕЗОВ. *Modern Science and Research*, 4(1), 301-310.
42. Кузиева, М., Ахмедова, М., & Халилова, Л. (2025). СОВРЕМЕННЫЕ АСПЕКТЫ ВЫБОРА МАТЕРИАЛА ДЛЯ ОРТОПЕДИЧЕСКОГО ЛЕЧЕНИЯ БОЛЬНЫХ, НУЖДАЮЩИХСЯ В ПРОТЕЗИРОВАНИИ ЗУБОВ. *Modern Science and Research*, 4(1), 322-333.
43. Narzulaeva, U. (2024). PATHOGENETIC MODELS OF CHRONIC HEART FAILURE. В CENTRAL ASIAN JOURNAL OF EDUCATION AND INNOVATION (Т. 3, Выпуск 12, сс. 154–157). Zenodo. <https://doi.org/10.5281/zenodo.14557952>
44. Farida Farkhodovna, K. ., Umida Rakhmatulloevna, N. ., & Mokhigul Abdurasulovna, B. (2022). ETIOLOGY OF CHRONIC RHINOSINUSITIS AND EFFECTIVENESS OF ETIOTROPIC TREATMENT METHODS (LITERATURE REVIEW). Новости образования: исследование в XXI веке, 1(4), 377–381. извлечено от <https://nauchniyimpuls.ru/index.php/noiv/article/view/1367>
45. Numonova, A., & Narzulayeva, U. (2023). EPIDEMIOLOGY AND ETIOPATHOGENESIS OF CHF. Наука и инновация, 1(15), 115-119.
46. Орипова Озода Олимовна, Самиева Гулноза Уткуровна, Хамидова Фарид Муиновна, & Нарзулаева Умида Рахматуллаевна (2020). Состояние плотности распределения лимфоидных клеток слизистой оболочки гортани и проявления местного иммунитета при хроническом ларингите (анализ секционного материала). Academy, (4 (55)), 83-86.

47. Umida Rakhmatulloevna Narzulaeva, & Xamrayeva Muxlisa Farmon qizi. (2023). ETIOPATHOGENESIS OF HEMOLYTIC ANEMIA. Web of Medicine: Journal of Medicine, Practice and Nursing, 1(1), 1–4. Retrieved from <https://webofjournals.com/index.php/5/article/view/26>
48. Нарзулаева, У., Самиева, Г., & Насирова, Ш. (2023). Гемореологические нарушения на ранних стадиях гипертензии в жарком климате. Журнал биомедицины и практики, 1(1), 221–225. <https://doi.org/10.26739/2181-9300-2021-1-31>
49. Umida Rakhmatulloevna Narzulaeva. (2023). Important Aspects of Etiology And Pathogenesis of Hemolytic Anemias. American Journal of Pediatric Medicine and Health Sciences (2993-2149), 1(7), 179–182. Retrieved from <https://grnjournal.us/index.php/AJPMHS/article/view/817>
50. Нарзулаева, У. Р., Самиева, Г. У., & Насирова, Ш. Ш. (2021). ИССИҚ ИҚЛИМДА КЕЧУВЧИ ГИПЕРТОНИЯ КАСАЛЛИГИНИНГ БОШЛАНГИЧ БОСҚИЧЛАРИДА ГЕМОРЕОЛОГИК БУЗИЛИШЛАР. ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ, 6(1).
51. Нарзулаева, У., Самиева, Г., Лапасова, З., & Таирова, С. (2023). Значение диеты в лечении артериальной гипертензии . Журнал биомедицины и практики, 1(3/2), 111–116. <https://doi.org/10.26739/2181-9300-2021-3-98>
52. Narzulaeva Umida Rakhmatulloevna, Samieva Gulnoza Utkurovna, & Ismatova Marguba Shaukatovna (2020). SPECIFICITY OF THE CLINICAL COURSE OF THE INITIAL STAGES OF HYPERTENSION IN ARID ZONES OF UZBEKISTAN AND NON-DRUG APPROACHES TO TREATMENT. Кронос, (4 (43)), 15-17.
53. Umida Raxmatulloevna Narzulaeva, & Mohigul Abdurasulovna Bekkulova (2023). Arterial gipertenziya etiologiyasida dislipidemiyaning xavf omili sifatidagi roli. Science and Education, 4 (2), 415-419.
54. Narzulaeva, U. R., & Samieva, G. U. (2021). Nasirova ShSh. Hemoreological Disorders in The Early Stages Of Hypertension In Hot Climates. Journal of Biomedicine and Practice, 6(1), 221-225.
55. Dilsora Nuriddinovna Juraeva, Umida Rakhmatulloevna Narzulaeva, & Kurbonova Gulbahor Aslamovna. (2022). GENDER DIFFERENCES IN THE PARACLINICAL FEATURES OF THE COURSE OF TRIGEMINAL NEURALGIA. World Bulletin of Public Health, 8, 186-190. Retrieved from <https://www.scholarexpress.net/index.php/wbph/article/view/751>

56. Нарзуллаева, У. Р., Самиева, Г. У., & Пардаева, З. С. (2020). Pathogenetic aspects of verified risk factors such as arterial hypertension and dyslipidemia in the development of chronic heart failure. *American Journal of Medicine and Medical Sciences*, 10(10), 776-779.
57. Жураева, Д. Н., & Нарзуллаева, У. Р. (2020). Эркак ва аёлларда уч шохли нерв невралгияси кечишининг параклиник хусусиятлари. *ЖУРНАЛ НЕВРОЛОГИИ И НЕЙРОХИРУРГИЧЕСКИХ ИССЛЕДОВАНИЙ*, 1(1).
58. Narzulyeva, U., & Ismoilova, N. (2023). DETECTION OF EATING BEHAVIOR DISORDERS IN STUDENTS BEFORE THE EXAM USING THE DEBQ QUESTIONNAIRE. *Наука и инновация*, 1(15), 112-114.
59. Кузиева, М. А. (2023). Клиноморфологические Критерии Органов Ротовой Полости При Применении Несъемных Ортопедических Конструкций. *Research Journal of Trauma and Disability Studies*, 2(12), 318-324.
60. Abdusalimovna, K. M. (2024). THE USE OF CERAMIC MATERIALS IN ORTHOPEDIC DENTISTRY. (Literature review). *TADQIQOTLAR*, 31(3), 75-85.
61. Abdusalimovna, K. M. (2024). CLINICAL AND MORPHOLOGICAL FEATURES OF THE USE OF METAL-FREE CERAMIC STRUCTURES. *TA'LIM VA INNOVATSION TADQIQOTLAR*, 13, 45-48.
62. Abdusalimovna, K. M. (2024). THE ADVANTAGE OF USING ALL-CERAMIC STRUCTURES. *TA'LIM VA INNOVATSION TADQIQOTLAR*, 13, 49-53.
63. Abdusalimovna, K. M. (2024). MORPHO-FUNCTIONAL FEATURES OF THE METHOD OF PREPARATION OF DEPULPATED TEETH FOR PROSTHETICS. *SCIENTIFIC JOURNAL OF APPLIED AND MEDICAL SCIENCES*, 3(4), 301-307
64. Abdusalimovna, K. M. (2024). Clinical and Morphological Features of the Use of Non-Removable Orthopedic Structures. *JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH*, 3(5), 73-78.
65. Kuzieva, M. A. (2024). CARIOUS INFLAMMATION IN ADOLESCENTS: CAUSES, FEATURES AND PREVENTION. *European Journal of Modern Medicine and Practice*, 4(11), 564-570.
66. Kuzieva, M. A. (2024). Malocclusion–Modern Views, Types and Treatment. *American Journal of Bioscience and Clinical Integrity*, 1(10), 103-109.
67. KUZIEVA, M. A. (2024). MODERN ASPECTS OF MORPHO-FUNCTIONAL DATA AND TREATMENT OF AGE-RELATED CHANGES IN THE MAXILLOFACIAL REGION. *Valeology: International Journal of Medical Anthropology and Bioethics*, 2(09), 126-131.