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THE HISTORY OF OLYMPIC GAMES

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Abstract: The Olympic games and sport industry suggest many opportunities for investing and improving. It is also interesting watching how the athletes during the training days prepare for the competition because it includes patience, hard work, and motivation. However, it involves some challenges that can harm the popularity of this competition or it can be connected with the tickets. These issues, incorporate the online ticket shops where some times it is hard to get because of a bad connection or old people won't be able to take it because they don't understand how to use the mobile phone and spread all over the world. In addition, there is no places in arena that's why people sometimes can't go in and they can loose their money that they paid for competition. The other problem is a crowd because people can be easily robbed their phone, wallet, and cards from bad people. The article will also discuss the history and impact of Olympic games to the world.

Key words: sport, competition, discuss, problem, people.

Introduction: Each four years, millions of people from all over the world watch the Olympic games from TV and online or sometimes they lead to buy tickets for the event. To understand, the legacy of this event usually people start to explore and learn the history from the ancient times until the modern era. While, competition is often hard for the participants they can win huge amount of money for the first place. These days, Olympic Games emerge in different countries in the world and it is beneficial for the state because it improves the tourism area. In addition, it includes many sports such as: boxing, wrestling, football, running, striking and others. People from another part of the world are able to observe it online because nowadays world is modernizing and it is accessible to watch from phone apps and TV. However, it is not easy to take part in it for the athletes because it needs hard work, patience, but in the ancient times everyone could participate. Additionally, it appeared it ancient Greece and it was the most popular peri

<https://www.xpatathens.com/living-in-athens/taste-experience/greek-philosophy-history/item/9675-a-brief-history-of-the-olympic-games>



Picture 1: this picture explains us how the winner would be rewarded as we can see in the picture it is about small crown now it is defined as a medal.

The ancient Olympic games had been established in 776BC which was started in the city named Olympia, this event was created for the ancient god ZEUS. People believed that to deserve the honor of the gods they should win the competition. It was very important for the Greek citizens therefore they were preparing so hard “it is hard for us to exaggerate how important the Olympics were for the Greeks” (Paul Christensen no data). In the period of ancient times there were a lot of wars happening and when the Olympic games started all the wars had to stop because there must be safe travelling zone for the athletes.

The most popular sport was running and there should be three marathons during the day and it was a very cruel competition because sometimes athletes lead to kill the opponent to be the winner and it was the normal situation for the people. However, it that time only man could take part in and their sisters, wife, mother couldn’t come even for watching because they son or husband could die. The reason why Greek people loved sport so much because their great philosophers liked to do some sport activities and they decided to create this type of competition. Athletes had to be very good physically and they thought that every muscles must be in the best vision as possible “You need to exercise the undersole of your foot in some way. Walking in shoes meant that people’s arches and the muscles in the base of the foot are not as well exercised as they may have been” (Toni Minichello no data). The most popular person who was in charge of Olympic Games was Gerakl for the Zeus and he is famous for the 12 historical feats. In 393BC competition was suddenly stopped because of the order of Theodosius. Moreover,

Olympic Games was created for improving relations and reciprocity between Greece cities. Most of the people were keen on the running sport and the winner of the sport won not only the honor but he didn’t have to pay any taxes which was very hard in that time. During the Olympic games travelers and traders could earn a lot of money introducing the merchandises to the athletes and people from another cities. Although there was no enough spaces to sit and was dangerous because many people were sitting on the ground and there were snakes, scorpions, and other venomous animals.



<https://news.arizona.edu/news/olympics-then-and-now>

Picture 2: It shows us how the Olympic Games changed through the ancient time until now because in that time only man could participate but now rules were changed when women also can take part in.

The modern era of Olympic Games started in 1896 in summer which was held in Athens. There were 280 males from 12 countries and the most popular sports were cycling, swimming, gymnastic and martial arts. Nowadays, wrestling and boxing are the hardest sports and most valuable in the world, it is held every 4 years and which is happening in every part of the world. Moreover, in Olympic games there are not a lot of people who won the competition more than the two times such as: Buvaisar Saitiev (freestyle wrestling) three times champion, Michail Lopez (Greco-Roman wrestling) five times champion, Felix Savone(boxing) three times champion and many others.

As it became more popular Olympic Games created their flag, hymn, and official logo and entrepreneurs started investing money and they decided to give money and other things such as flats, cars and so on for the winners. In the ancient time if the athlete win the Olympic games 3 times government would put for them a statue and they would be buried with the honor and golds but now as it is getting more harder to win government just give for the winner a lot of money and apartments. Nowadays, Olympic games have their special opening ceremony as an international level event and the presidents try to help and provide all the needed things for their athletes. In martial arts such as boxing and wrestling they need to win the local competition inside of their cities and republics to have the opportunity to go the Olympic Stage. Olympic Games include athletes usually from 18 years old but it depends which sport because in football, players can take part in from 16 years old it depends on the skills but in martial arts it is strictly 19-20 years old. 2024 in Paris was held the Olympic games where 200 states and more could participate with more than 10 thousands athletes. National commitments choose the athletes for the Olympic games and during the four years they observe the situation around the athlete and they check if there is no any problems. Most of the athletes don't want to go there and they decided to participate in the local competition or they go to the some leagues for money because it is not easy for them sportsmen should be ready not only physically but especially morally.

Conclusion: Olympic Games had created many opportunities for the athletes to win different prizes for their life. Therefore, it will be the biggest sport competition in the world as in the past and people will try to modernize it more. Sportsmen will train in another part of the world with other athletes to become stronger with the real professionals in sports for example; boxing, wrestling, football, gymnastic and other. To summarize, I think it will be helpful for the state which will held this event for investment and also for tourism

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TEACHING ENGLISH TO FIVE-YEAR-OLD CHILDREN: EARLY LANGUAGE LEARNING APPROACHES

Jarqo'rg'on 1-son texnikumi ingliz tili o'qituvchisi

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ANOTATION : This article revolves around the importance and effectiveness of teaching English to children who are merely five years old. The article mainly discusses the psychological structure of children and the importance of using the 'communicative method' to teach English to children in early ages. Additionally, the importance of having a 'positive emotional climate' for the learner is discussed in the article. At the end of the article, the importance of teaching English to children who are merely five years old is highlighted by stating the benefits it would bring to the learner, such as cognitive development, correct pronunciation, and the ability to develop a good attitude for learning English.

Keywords: early language learning, young learners, teaching English, play-based learning, Total Physical Response, preschool education

ОБУЧЕНИЕ АНГЛИЙСКОМУ ЯЗЫКУ ДЕТЕЙ ПЯТИ ЛЕТ: ПОДХОДЫ К РАННЕМУ ИЗУЧЕНИЮ ЯЗЫКА

АННОТАЦИЯ: При изучении данного литературного fragments статьи можно прийти к следующим мыслям: особенно в статье подчеркивается significance и effectiveness обучения детям пяти лет грамматику языка english. Особое внимание в статье уделяется таким сторонам как психологическая и языковая специфичность дошкольников в начальной форме обучения языку. Кроме того в статье подчеркивается importance игр и специфичные материалы в том числе физическая активность в алгоритме новичка общения по языку английским. Кроме того в начальной форме изучения языка подчеркивается им profession.

Ключевые слова: раннее изучение языка, дети дошкольного возраста, обучение английскому языку, игровое обучение, метод полного физического реагирования, дошкольное образование

BESH YOSHLI BOLALARGA INGLIZ TILINI O'RGATISH: TILNI ERTA O'RGANISH YO'NALISHLARI

ANOTATSIYA: Ushbu maqolada besh yoshli bolalarga ingliz tilini o‘qitishning ahamiyati va samaradorligi tahlil qilinadi. Unda maktabgacha yoshdagi bolalarning psixologik va lingvistik xususiyatlari hamda o‘yin asosidagi va kommunikativ o‘qitish usullari yoritiladi. Qo‘shiqlar, o‘yinlar, ko‘rgazmali vositalar va harakatli mashg‘ulotlarning erta til o‘zlashtirishdagi roli ta’kidlanadi. Shuningdek, ijobiy emotsional muhit yaratish va o‘qituvchi hamda ota-onalarning hamkorligi muhimligi qayd etiladi. Xulosa qilib aytganda, ingliz tilini erta yoshda o‘rganish bolalarning kognitiv rivoji, to‘g‘ri talaffuzi va til o‘rganishga bo‘lgan ijobiy munosabatini shakllantiradi.

Kalit so‘zlar : erta til o‘rganish, maktabgacha yoshdagi bolalar, ingliz tilini o‘qitish, o‘yin asosida o‘rganish, to‘liq jismoniy javob metodi, maktabgacha ta’lim

English has thus evolved as an essential medium of effective communication in today’s globalized world. Accordingly, learning English at an early age, especially for five-year-old children, has emerged as an important activity in recent times. It is evident that early age is an important period in language learning, during which learning English can play an important role in children’s intellectual development.

At the tender age of five, the child is endowed with the gift of assimilating language by merely listening and imitating. Since such young children do not fear making any mistakes, they can try out anything they desire with the language. Seeing this receptiveness, teaching any language at this tender age is a wonderful idea. If a foreign language is used in a fun and captivating manner, the pre-school child can easily grasp the pronunciation of the language.

One of the most efficient ways of imparting the English language to five-year-old children involves ‘Learning through Play.’ Games, songs, rhymes, and storytelling are of central importance in keeping children engrossed in class. In addition to that, children can easily pick up new words, grammar structures, and intonational sounds in the English language through chanting or rhyming, although in an unintentional fashion. Storybooks with colorful illustrations can also be helpful in improving listening and imaginative skills in children.

Besides that, both visually and physically interactive activities are also extremely important while teaching young learners. Since young children ranging between the ages of five can be best learned through physically interactive activities and with the aid of visual cues, different activities such as flashcards, toys, gestures, and object use are employed. In this regard, one of the most common approaches to teaching children

this age is Total Physical Response (TPR). By this approach, different activities are carried out—when children are commanded to stand up, jump, clap hands, etc., the meaning can be easily deduced through action.

Another important consideration when it comes to the teaching of English to young school children is the learning environment in itself. This is also important since young school children, as any other human being, need to feel comfortable naturally. Children should always be praised and encouraged at their tender ages, and mistakes in their learning process should not be rigorously addressed in their attempts to understand the language.

The third important element in the successful early acquisition of the language is parental contribution. In fact, when parents show support to the acquisition of the new language at home by ways of watching cartoons, hearing songs, and reading stories in the new language, the student is more likely to retain the knowledge learned in the class. However, teaching English to children at the age of five also brings some challenges. Their attention span is not too long, so the work has to be carefully structured. Activities must be brief, active, and geared to young children. The teacher has to be imaginative, understanding, and adequately qualified for young children.

To sum up, teaching English language to children of ages five has a number of advantages if done properly, especially by means of play through various forms of learning such as seeing, moving, and a proper climate in the classroom, enabling children to learn English well from an early stage. Learning English is not only good for children's linguistic skill, it also gives them confidence, creativeness, and a broad-minded attitude towards different cultures of various people of the world.

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MUSIQAGA OID TOVUSHLAR XUSUSIYATLARI TARAQQIYOTI

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Annotasiya:Maqolada tovushlarning psixologik, musiqiy xususiyatlari, o'zbek xalq cholg'u asboblarining tarixiy taraqqiyoti va ta'lim-tarbiyadagi roli, musiqa ijrochiligi yo'liga mos ijro shakllarini yuzaga keltirish g'oyalari haqidagi ma'lumotlar bayon etilgan.

Kalit so'zlar:Tovush, psixologik, musiqa ijrochiligi; cholg'u asboblari; xromatik tovush qatori; diapazon; tovush xususiyatlari; ijro etish texnikasi; nota tizimida o'qitish; ansambl; orkestr; musiqa maktabi.

Аннотация:Статья посвящена музыкально-психологическим свойствам звука, истории узбекских народных инструментов и их воспитательную роль, формирование формы музыкальное исполнительство.

Ключевые слова: Музыкальное исполнительство; звук; психологические свойства; музыкальные инструменты; хроматические звукоряды; диапазон; специфика звуков; исполнительская техника; система нотного обучение; ансамбль; оркестр; музыкальная школа.

Musiqada tovushning xususiyatlari va paydo bo'lishi masalasida qadimdan olimlar fikr yuritib kelganlar. Jumladan, yunon faylasufi va ensiklopedis ta'limi Aristotel kuzatishlarga asoslangan holda tovushning tabiatini va turli-xil xususiyatlarini to'g'ri tushunchasiga ega bo'lgan holda ta'kidlanganidek, u tovush chiqarayotgan jism, ketma-ket havoni siqishini va to'lqinlardagi intonatsiyani vujudga keltiradi, deb aytgan.

Misol uchun: tanbur, dutor, nay, qashqar rubobi, afg'on rubobi kabi cholg'ularni ijro etganda uning tebranayotgan tovushi havoni goh zichlaydi, goh siyraklaydi, havoning elastikligi tufayli esa, bunday ketma-ket bo'ladigan ta'sirlar fazodan qatlamdan-qatlamga uzatiladi, elastik to'lqinlar yuzaga keladi. Bizning qulog'imizga yetib kelgach, ular quloq pardasiga ta'sir qilib, tovush sezgisini yo'qotadi. Eng sokin va eng kimsasiz joylarda ham qulog'imiz har doim qandaydir tovushlarni ilg'aydi. Chunki hamma joyda nimadir harakatlanadi, tebranib turadi. Kosmonavtlar ba'zi intonatsion tovushlarni eshshitadilar va turli materiallarning gavdalanishlariga qarab, tovushlarni payqab boradilar. Ovro'palik kosmonavtidan biri kosmosga o'zga sayoraga

uchayotganida islom diniga mansub namoz-qiroatini «ollohu-akbar» so'zlarini eshshitganini uzoq-uzoq eslaydi va Arabistondagi sayyohatida esa ishonib, yerdagi ushbu tovushni eshitib Ollohning borligini anglab oladi va u shu kundan boshlab xristiyanlikdan islom diniga itoat qiladi va musulmon bo'ladi.

Tovush xususiyatlarining inson psixikasiga ruhiy ta'sirbaxsh tovushlarining bir necha turlari mavjud bo'lib, bular:

- Tabiiy tovush xususiyatlari.
- Moddiy-ma'naviy tovushlar.
- Texnik-vositalardan tovushlar va boshqalar.
- Musiqiy tovush turlaridir.

Afg'on rubobi-torli-chertma cholg'u bo'lib, u mezrob (mediator) vositasida chalinadi. Uning kosasi chuqur o'yilgan va teri bilan qoplangan bo'ladi, kalta va yo'g'on dastasida to'rtta bog'lama pardasi bor. Dastasining yuqori qismida 6 yoki 7 ta qo'shimcha («xas») pardalari ham bo'ladi. Afg'on rubobining 5 ta asosiy torlarida kuy chalinadi. Shuningdek, uning yon tomonidan 10-11 ta yordamchi yonquloq simlari ham tortilgan bo'lib, ular aks-sado sifatida yangraydi.

Afg'on rubobi haqida rivoyat. Buxoro xonining husnda tengi yo'q bir qizi bor ekan. Ammo u uyqusizlikka uchragan, kasalvand ekan. «Qizim o'lib qolmasmikin?» deb xon kunu tun g'amda ekan. Qaratmagan tabibi, boqtirmagan quchnochi qolmabdi. Baribir qiz tuzalмай, ahvoli kundan-kunga battarlashaveribdi.

Qizni ertalab labihovuz oldiga chiqarib qo'yishar, kechasi qasr ichiga olib kirishar ekan. Xonning qizi labihovuz oldiga o'ttirib bog'da yurgan tovuслarga tikilib xayol surgani-surgan ekan. Ularni juda yaxshi ko'rar ekan-da. Tovuslar patlarini yoysa ko'ngli yorishar, o'yinga tushishsa quvnar ekan. Doim: «Shu tovuслar so'zlashib, qo'shiq aytib, raqsga tushishsa-ku?» der ekan.

Buxoroda yashovchi bir afg'on yigiti bundan xabardor bo'lib qolibdi. U qo'li gul usta bo'lib, hatto quruq yog'ochga ham «jon kiritib» yuborarkan. Hunarini ishga solib, tovuслga o'xshagan bir asbob yasabdi. Uni olib xonning saroyiga boribdi.

Xonga ro'baro' bo'lib: «Men qizingizni tuzataman», — debdi. Xon rozi bo'libdi. Afg'on yigit boqqa kirib, qizning yoniga kelibdi-da, o'zi yasagan tovuссimon asbobni chala boshlabdi. Asbobning goh hazin, goh mungli, goh jo'shqin kuyiga berilib ketgan xonning qizi asta-asta uyquga ketibdi. «Uyqu dardga davo, bemorga shifo», deb bejiz aytishmagan. Afg'on yigit asbobini chalaveribdi, xonning qizi maza qilib uxlayveribdi. Bora-bora afg'on yigiti uni yaxshi ko'rib qolibdi.

Qizga mehri oshgan sari qo'lidagi asbobi yanada boshqacharoq bo'zlayveribdi. «Qizim nima bo'ldiykin, bir xabar olay», deb boqqa chiqqan xon qizining uyqu og'ushida,

yonidagi afg'on yigiti esa qo'lidagi asbobni bo'zlatayotgan holda ko'rib: «Tag'in qizimning boshini aylantirib qo'ymasin», deb o'ylab, yigitni bog'dan haydab chiqaribdi. Shu tariqa qiz tuzalib ketibdi. Afg'on yigitini ko'p yo'qiatibdi, topolmabdi. Xon qizining tuzalib qolganini ko'rib, o'ziga o'xshagan xonning o'g'liga katta to'y qilib berib yuboribdi.

Afg'on yigiti qizning ko'yida o'zi yasagan asbobni chalib yuraveribdi. U chalganda uyqusizlar uyquga ketibdi, kasallar tuzalibdi. Muhabbati bevaqt xazon bo'lganlarning dardiga dard qo'shilibdi. Shu-shu afg'on yigiti yasagan asbob «Afg'on rubobi» deb ataladigan bo'libdi.

Shuning uchun ham musiqa madaniyati darslarida cholg'u asboblarida ijro etish faoliyat turi eng qiziqarli mashg'ulotdir. Bolalar cholg'u asboblari jonli tovushli o'yinchoqlar sifatida har bir o'quvchini qiziqtiradi. Chapak va bolalar cholg'u asboblarida ritmik jo'r bo'lish, musiqaning xarakteri va obrazlarni chuqurroq his etishda, ularga xos emotsional tuyg'ular hosil etish, ayniqsa, bolalarning ijodiy qobiliyatlarini rivojlantirishda muhim ahamiyat kasb etadi.

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**13.00.02 – ТЕОРИЯ И МЕТОДИКА ОБУЧЕНИЯ И ВОСПИТАНИЯ
(АНГЛИЙСКИЙ ЯЗЫК)**

**КОМПЛЕКСНАЯ МЕТОДИКА ПРЕПОДАВАНИЯ АНГЛИЙСКОГО
ЯЗЫКА ЧЕРЕЗ ИНТЕГРАЦИЮ КОНЦЕПТОВ И СОВРЕМЕННЫХ
ПОДХОДОВ (TBL / CLIL / CBLT)**

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Аннотация. В статье рассматривается комплексная методика преподавания английского языка через интеграцию современных подходов TBL (Task-Based Learning), CLIL (Content and Language Integrated Learning) и CBLT (Concept-Based Language Teaching) на примере работы с концептом «успех / success». Представлена методическая модель, включающая последовательность уроков, проектные и ролевые задания, а также критерии оценки когнитивной и культурной осознанности студентов. Показано, что интеграция подходов позволяет одновременно развивать языковые, когнитивные и межкультурные компетенции, формировать личностные ценностные ориентиры и повышать мотивацию учащихся.

Ключевые слова: *Комплексная методика, Task-Based Learning, CLIL, Concept-Based Language Teaching, концепт «успех / success», межкультурная компетенция, когнитивное развитие, проектная деятельность, обучение английскому языку.*

Abstract. The article presents a comprehensive methodology for teaching English through the integration of modern approaches: Task-Based Learning (TBL), Content and Language Integrated Learning (CLIL), and Concept-Based Language Teaching (CBLT) using the concept of “success.” The study outlines lesson sequences, project and role-play tasks, and assessment criteria for cognitive and cultural awareness. The findings demonstrate that integrating these approaches simultaneously develops language, cognitive, and intercultural competencies, fosters personal value orientations, and enhances student motivation.

Annotatsiya. Maqolada ingliz tilini o‘qitishda zamonaviy yondashuvlarni — Task-Based Learning (TBL), Content and Language Integrated Learning (CLIL) va Concept-Based Language Teaching (CBLT) — “muvaffaqiyat / success”

kontseptsiyasi orqali integratsiyalash bo'yicha kompleks metodika taqdim etilgan. Tadqiqotda darslar ketma-ketligi, loyiha va rol o'yinlari shaklidagi topshiriqlar, shuningdek, kognitiv va madaniy ongni baholash mezonlari ko'rsatib o'tilgan. Natijalar shuni ko'rsatadiki, yondashuvlarni integratsiyalash til, kognitiv va madaniy kompetensiyalarni rivojlantiradi, shaxsiy qadriyatlarni shakllantiradi va talabalar motivatsiyasini oshiradi.

Введение. Современное изучение иностранного языка требует комплексного подхода, который соединяет языковую практику с когнитивным, концептуальным и межкультурным развитием студентов. Традиционные методы обучения постепенно уступают место инновационным педагогическим моделям, среди которых выделяются Task-Based Learning (TBL), Content and Language Integrated Learning (CLIL) и Concept-Based Language Teaching (CBLT). Каждый из этих подходов имеет свои преимущества: TBL стимулирует коммуникативную активность через выполнение реальных задач; CLIL объединяет изучение языка с предметным содержанием; CBLT фокусируется на работе с концептами, что способствует развитию когнитивной и культурной осознанности студентов (Ellis, 2003; Coyle, 2010; Richards, 2015).

Выбор концепта «успех / success» позволяет интегрировать эти подходы в единую методическую систему. Этот концепт служит «мостом» между языковым обучением и личностно-ценностным развитием, а также предоставляет возможность студентам осмыслить культурные различия и социальные ожидания.

Методологическая основа интеграции TBL, CLIL и CBLT

1. Task-Based Learning (TBL). Основная идея TBL заключается в обучении через выполнение практических задач. В контексте работы с концептом «успех» возможны следующие виды задач:

- Подготовка и проведение презентаций о личных достижениях и жизненных целях;
- Создание сравнительных таблиц успеха в англоязычных и родных культурах;
- Ролевые игры, моделирующие профессиональные и социальные ситуации, связанные с достижением успеха.

TBL позволяет развивать не только языковые навыки, но и навыки планирования, аргументации и критического мышления.

2. Content and Language Integrated Learning (CLIL). CLIL предполагает изучение языка через содержание предметной области. В рамках концепта «успех» это может включать:

- Изучение биографий известных личностей и анализ их достижений;
- Рассмотрение психологических и социологических аспектов успеха;
- Исследование культурных традиций и ценностей, влияющих на восприятие успеха.

Использование CLIL обеспечивает глубокое понимание содержания, активное применение языка и развитие междисциплинарных компетенций.

3. Concept-Based Language Teaching (CBLT). CBLT акцентирует внимание на изучении концептов, которые несут культурный и когнитивный смысл. Работа с концептом «успех» позволяет:

- Выявлять ключевые ценности и представления, связанные с успешностью;
- Анализировать сходства и различия в восприятии успеха в разных культурах;
- Формулировать личное понимание успеха через письменные и устные задания.

CBLT способствует развитию межкультурной осознанности и способности студента к критическому осмыслению социальных и культурных стереотипов.

Последовательность уроков и формы заданий

Этап 1: Вводный. Цель: познакомить студентов с концептом «успех» и подготовить к проектной работе.

- Мини-лекция о значении успеха в англоязычных и родных культурах;
- Лексические упражнения на ключевые слова и выражения, связанные с успехом;
- Групповое обсуждение ассоциаций и личного понимания успеха;
- Задание: составить «mind map» своего понимания успеха.

Этап 2: Проектный. Цель: реализовать интеграцию TBL и CLIL через концепт «успех».

- *Индивидуальные задания:* написание эссе на тему «My Definition of Success», подготовка короткой презентации о личных достижениях;
- *Групповые задания:* создание сравнительного анализа успеха в разных культурах, разработка видеопроектов или инфографики;
- *Ролевые игры:* моделирование ситуации выбора карьеры, достижения целей в команде, переговоров о профессиональном росте.

Этап 3: Рефлексивный. Цель: развитие когнитивной и культурной осознанности.

- Дискуссия и дебаты: «Что делает человека успешным?»;
- Взаимная и самооценка проектов по заранее установленным критериям;
- Рефлексия: формулирование личных ориентиров и ценностей, выявленных в процессе работы.

Таблица 1. Примеры заданий и проектов

Тип задания	Описание	Цель
<i>Эссе «My Definition of Success»</i>	Индивидуальная работа с анализом личных и культурных факторов успеха	Развитие письменной речи и критического мышления
<i>Сравнительный проект «Success Across Cultures»</i>	Групповая работа с исследованием англоязычных и национальных подходов к успеху	Межкультурная осознанность, командная работа
<i>Видеопроjekt «Success Stories»</i>	Создание короткого фильма о достижениях известных людей	Медиакомпетенции, использование языка в практических ситуациях
<i>Ролевая игра «Career Path»</i>	Моделирование профессиональных решений и достижения целей	Практическая коммуникация, применение языка, критическое мышление

Критерии оценки

1. Лексико-грамматическая компетенция: использование целевой лексики и грамматики в устных и письменных работах;
2. Когнитивная компетенция: способность анализировать, сравнивать, делать выводы и аргументировать позицию;
3. Межкультурная осознанность: понимание различий и сходств концепта успеха в разных культурах;
4. Рефлексивная компетенция: осознание личных ценностных ориентиров и критическое отношение к культурным стереотипам;

5. Проектная компетенция: качество выполнения индивидуальных и групповых заданий, креативность, участие в обсуждениях.

Заключение

Интеграция подходов TBL, CLIL и CBLT через концепт «успех / success» позволяет создать комплексную методику преподавания английского языка, объединяющую языковую практику, концептуальное обучение и межкультурное развитие. Такая модель способствует формированию языковых, когнитивных и ценностных компетенций, развивает критическое мышление, межкультурную осознанность и личностные ориентиры студентов. Использование проектной и концептуальной деятельности повышает мотивацию и вовлеченность студентов, делая процесс обучения более осмысленным и личностно значимым.

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Kimyoviy va biologik antiseptiklar: guruhlari, turlari va zamonaviy tibbiyotdagi o‘rni

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Annotatsiya

Mazkur maqolada kimyoviy va biologik antiseptik vositalarning ilmiy-nazariy asoslari, ularning guruhlari, ta'sir mexanizmlari hamda amaliy tibbiyotdagi qo'llanishi keng yoritiladi. Antiseptiklarning infeksiyon kasalliklarning oldini olish va davolashdagi ahamiyati zamonaviy statistika va ilmiy manbalar asosida tahlil qilinadi. Tadqiqot natijalari antiseptik vositalarni tanlashda ilmiy yondashuv muhimligini ko'rsatadi.

Kalit so'zlar: antiseptiklar, kimyoviy antiseptiklar, biologik antiseptiklar, infeksiya, mikroorganizmlar, dezinfeksiya.

KIRISH

Zamonaviy tibbiyot va biologiya fanlarining eng dolzarb muammolaridan biri bu infeksiyon kasalliklar bilan kurashish masalasidir. Global miqyosda olib borilgan tadqiqotlar shuni ko'rsatadiki, infeksiyalar hali ham o'lim va nogironlikning yetakchi sabablaridan biri bo'lib qolmoqda. Jahon sog'liqni saqlash tashkiloti (JSST) ma'lumotlariga ko'ra, har yili dunyo bo'yicha 13 milliondan ortiq odam infeksiyon kasalliklar oqibatida vafot etadi. Ushbu holat tibbiyot amaliyotida antiseptik vositalarning o'rni va ahamiyatini yanada oshirmoqda.

Antiseptiklar – tirik to'qimalarga qo'llanganda mikroorganizmlarning rivojlanishini to'xtatadigan yoki ularni yo'q qiladigan moddalar hisoblanadi. Ular jarrohlik amaliyoti, stomatologiya, akusherlik va ginekologiya, dermatologiya hamda kundalik tibbiy parvarishda keng qo'llaniladi. Antiseptiklarning to'g'ri tanlanishi va ilmiy asosda qo'llanilishi kasalliklarning oldini olishda hal qiluvchi omil bo'lib xizmat qiladi.

So'nggi yillarda antibiotiklarga chidamli mikroorganizmlarning ko'payishi antiseptik vositalarga bo'lgan qiziqishni yana-da kuchaytirdi. Antibiotik rezistentlik muammosi sharoitida kimyoviy va biologik antiseptiklar infeksiyon nazoratning muhim tarkibiy qismi sifatida ko'rilmoqda. Ayniqsa, shifoxona ichki infeksiyalarining oldini olishda antiseptik vositalarning samaradorligi alohida ahamiyat kasb etadi.

Kimyoviy antiseptiklar anorganik va organik moddalardan tashkil topgan bo‘lib, ular mikroorganizmlarning hujayra devorini buzish, ferment tizimlarini falajlash yoki oqsil tuzilmalarini denaturatsiyalash orqali ta’sir ko‘rsatadi. Biologik antiseptiklar esa tirik organizmlar mahsuloti bo‘lib, tabiiy immun mexanizmlarga yaqin ta’sir ko‘rsatadi. Ularning afzalligi shundaki, ular organizm uchun nisbatan kam toksik hisoblanadi.

O‘zbekistonda ham infeksiyon kasalliklar profilaktikasi va davolash masalalariga alohida e’tibor qaratilmoqda. Sog‘liqni saqlash tizimida antiseptik vositalardan foydalanish bo‘yicha milliy klinik protokollar ishlab chiqilgan. Biroq amaliyotda antiseptiklarni tanlashda ba’zan ilmiy asos yetarli darajada hisobga olinmaydi, bu esa ularning samaradorligini pasaytirishi mumkin.

Shu sababli ushbu maqolaning maqsadi – kimyoviy va biologik antiseptiklarning guruhlari va turlarini ilmiy jihatdan tahlil qilish, ularning ta’sir mexanizmlarini ochib berish hamda zamonaviy statistika asosida ahamiyatini ko‘rsatishdan iborat

ADABIYOTLAR TAHLILI

Antiseptiklar haqidagi ilmiy qarashlar XIX asrga borib taqaladi. J. Lister tomonidan jarrohlikda fenol qo‘llanilishi antiseptika nazariyasining shakllanishiga asos bo‘lgan. Keyingi tadqiqotlarda kimyoviy antiseptiklarning samaradorligi va toksikligi chuqur o‘rganilgan. O‘zbek olimlari tomonidan chop etilgan manbalarda antiseptiklarning farmakologik xususiyatlari, ularning klinik qo‘llanilishi va cheklovlari yoritilgan.

Mahalliy adabiyotlarda biologik antiseptiklar, xususan, fermentlar, bakteriofaglar va immunobiologik preparatlarning ahamiyati alohida qayd etilgan. Tadqiqotchilar biologik antiseptiklarning mikroflora muvozanatini saqlashdagi rolini ta’kidlaydilar.

METODOLOGIYA

Mazkur tadqiqotda tahliliy va qiyosiy metodlardan foydalanildi. O‘zbekiston va xorijiy manbalardagi statistik ma’lumotlar umumlashtirildi. Antiseptik vositalar tasnifi ularning kimyoviy tuzilishi va biologik kelib chiqishiga asoslandi. Shuningdek, klinik amaliyotdagi qo‘llanish chastotasi tahlil qilindi.

Tadqiqotning nazariy-metodologik asosi sifatida mikrobiologiya, farmakologiya, klinik tibbiyot va gigiyena fanlarining fundamental qoidalari olindi. Antiseptik vositalarning ta’sir mexanizmlarini tushuntirishda mikroorganizmlarning morfologik va fiziologik xususiyatlari, ularning tashqi omillarga sezuvchanligi hamda rezistentlik rivojlanish mexanizmlari hisobga olindi. Bu yondashuv antiseptiklarning biologik va kimyoviy ta’sirini chuqurroq ochib berish imkonini berdi.

Tadqiqot davomida **adabiyotlarni tahlil qilish metodi** yetakchi o‘rin tutdi. O‘zbekiston olimlari tomonidan chop etilgan darsliklar, monografiyalar, ilmiy maqolalar va metodik qo‘llanmalar tizimli ravishda o‘rganildi. Adabiyotlar tanlashda ularning ilmiy ishonchliligi, nashr etilgan yili va amaliy ahamiyati asosiy mezon sifatida belgilandi. Bu esa tadqiqotning dolzarbligini va ilmiy yangiligini ta‘minlashga xizmat qildi.

Shuningdek, **qiyosiy tahlil metodi** yordamida kimyoviy va biologik antiseptiklar o‘rtasidagi o‘xshash va farqli jihatlar aniqlandi. Qiyosiy tahlil antiseptiklarning ta‘sir tezligi, samaradorligi, toksikligi va qo‘llanish sohalari bo‘yicha olib borildi. Ushbu metod yordamida qaysi klinik holatlarda kimyoviy antiseptiklar, qaysi vaziyatlarda esa biologik antiseptiklar ustun ekanligi ilmiy asosda yoritildi.

Tadqiqotda **statistik tahlil metodlari** ham qo‘llanildi. Antiseptik vositalarning amaliyotdagi qo‘llanish chastotasi va samaradorligi bo‘yicha mavjud statistik ma‘lumotlar umumlashtirildi. Statistik ko‘rsatkichlar foizlarda ifodalanib, jadval shaklida taqdim etildi. Bu metod antiseptiklarning real klinik natijalarini baholash va ularning samaradorligini aniq raqamlar asosida ko‘rsatish imkonini berdi.

NATIJALAR

Kimyoviy antiseptiklar guruhlar

1. **Halogenlar** (yod, xlor birikmalari)
2. **Oksidlovchi moddalar** (vodorod peroksid)
3. **Fenollar va ularning hosilalari**
4. **Spirtlar** (etanol, izopropanol)
5. **Og‘ir metall tuzlari**

Biologik antiseptiklar guruhlar

1. **Fermentlar**
2. **Bakteriofaglar**
3. **Immunobiologik preparatlar**
4. **O‘simlik asosidagi antiseptiklar**

Statistik jadval

Antiseptik turi	Qo‘llanish sohasi	Samaradorlik (%)
Kimyoviy antiseptiklar	Jarrohlik	85
Kimyoviy antiseptiklar	Dermatologiya	78
Biologik antiseptiklar	Pediatriciya	82
Biologik antiseptiklar	Stomatologiya	75

Tahlil natijalari shuni ko'rsatadiki, kimyoviy antiseptiklar tezkor ta'sir ko'rsatsa, biologik antiseptiklar uzoq muddatli va yumshoq ta'sirga ega.

MUHOKAMA

Olingan natijalar kimyoviy va biologik antiseptiklarning bir-birini to'ldiruvchi xususiyatga ega ekanini ko'rsatadi. Antibiotik rezistentlik sharoitida biologik antiseptiklarning ahamiyati oshib bormoqda. Shu bilan birga, kimyoviy antiseptiklar favqulodda holatlarda muhim ahamiyatga ega.

XULOSA

Xulosa qilib aytganda, kimyoviy va biologik antiseptiklar zamonaviy tibbiyotda ajralmas vositalar hisoblanadi. Ularning ilmiy asosda tanlanishi va to'g'ri qo'llanilishi infeksiyon kasalliklarning oldini olishda muhim rol o'ynaydi. Tadqiqot natijalari shuni ko'rsatadiki, antiseptiklarning samaradorligi ularning turiga, qo'llanish sohasiga va dozlash qoidalariga bevosita bog'liq. Kelajakda biologik antiseptiklar ulushini oshirish, ayniqsa pediatriya va profilaktik tibbiyotda, muhim yo'nalishlardan biri bo'lib qoladi.

Kimyoviy antiseptiklar tezkor va keng spektrli ta'sirga ega bo'lib, mikroorganizmlarning hujayra tuzilmasini buzish, ferment tizimlarini bloklash hamda oqsil denaturatsiyasini yuzaga keltirish orqali samarali natija beradi. Tadqiqot natijalariga ko'ra, jarrohlik va favqulodda holatlarda aynan kimyoviy antiseptiklar eng yuqori samaradorlik ko'rsatkichlariga ega. Biroq ularning yuqori konsentratsiyada qo'llanilishi tirik to'qimalarga salbiy ta'sir ko'rsatishi, allergik holatlar va mahalliy toksik reaksiyalarni keltirib chiqarishi mumkin. Shu bois, ularni qo'llashda ilmiy asoslangan dozlash va klinik tavsiyalarga qat'iy rioya qilish muhim hisoblanadi.

Biologik antiseptiklar esa zamonaviy tibbiyotda tobora muhim o'rin egallab bormoqda. Ularning asosiy ustunligi – organizmga mosligi, mikrobiotsenozni saqlab qolish xususiyati va nisbatan kam toksik ta'sirga egaligidir. Fermentlar, bakteriofaglar va o'simlik asosidagi biologik antiseptiklar antibiotiklarga chidamli mikroorganizmlar bilan kurashishda istiqbolli vositalar sifatida baholanmoqda. Tadqiqot davomida biologik antiseptiklar ayniqsa pediatriya, stomatologiya va uzoq muddatli davolash talab etiladigan holatlarda samarali ekanligi aniqlandi.

Statistik tahlillar kimyoviy va biologik antiseptiklarning qo'llanish samaradorligi ularning to'g'ri tanlanishi, klinik vaziyatga mosligi va kompleks yondashuv asosida qo'llanilishi bilan bevosita bog'liq ekanini ko'rsatdi.

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PATHOLOGICAL ANATOMY OF THE ADRENAL GLAND IN CLOSED BRAIN INJURIES

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Relevance of the topic: Closed brain injuries (CBBi) are one of the most common conditions in medical practice today, leading to high mortality and disability as a complication. These injuries are a disease characterized by serious dysfunction not only of the central nervous system, but also of the neuroendocrine system. In general, the adrenal gland, which is the main effector organ of stress reactions, undergoes functional and morphological changes in traumatic brain injuries. As a result, the study of the pathologoanatomical features of the adrenal gland in BMJoJ is considered to be of significant scientific and practical value.

The purpose of the work: to determine macroscopic and microscopic pathologoanatomical changes that occur in the adrenal gland in closed head injuries and to evaluate them as a morphological expression of stress-reactions as a result.

Results: The results of the studies revealed hyperemia, stromal edema, microhemorrhages, and increased vascular permeability in the adrenal gland. Also, hypertrophy of adrenocorticocytes, vacuolization, reduction of lipid reserves and dystrophic changes were observed in the renal cortex, especially in the zona fasciculata. Signs of cellular disorganization were noted in the zona reticularis. In the medullary layer, morphological signs characteristic of functional tension of chromaffin cells and increased secretory activity were detected.

Conclusions: In conclusion, it can be said that the pathoanatomical changes that develop in the adrenal glands in closed head injuries are generally associated with a strong stress response in the body and activation of the hypothalamic-pituitary-adrenal axis.

The identified morphological changes are important in assessing the severity of BMJ, predicting complications, and improving comprehensive treatment tactics.

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FERMENTLARNING OZIQ-OVQAT SANOATIDA QO‘LLANILISHI: TEXNOLOGIK ASOSLAR, SAMARADORLIK VA XAVFSIZLIK JIHATLARI

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Annotatsiya. Maqolada oziq-ovqat sanoatida fermentlarni qo‘llashning ilmiy-amaliy asoslari tahlil qilindi. Fermentlar (amilaza, proteaza, lipaza, pektinaza, sellulaza, laktaza, transglutaminaza va boshqalar) yordamida xom ashyoni qayta ishlash jarayonlarini jadallashtirish, mahsulot sifatini barqarorlashtirish, chiqitlarni kamaytirish va resurs tejamkorligini oshirish imkoniyatlari ko‘rsatildi. Shuningdek, fermentlarning manbai, faollik omillari, texnologik rejimlar, mahsulot matritsasidagi ta’sir mexanizmi va xavfsizlik (allergenlik, qoldiq faollik, mikrobiologik nazorat) masalalari umimlashtirildi.

Kalit so‘zlar: fermentlar, biokataliz, amilaza, proteaza, pektinaza, laktaza, non mahsulotlari, sut mahsulotlari, sharbat, pivo, xavfsizlik.

KIRISH

Oziq-ovqat sanoatida fermentlar biokatalizator sifatida texnologik jarayonlarni selektiv, energiya tejamkor va ekologik jihatdan maqbul tarzda boshqarish imkonini beradi. Fermentlar tabiiy polimerlarni gidroliz qilish, molekulalarni qayta tuzish, shuningdek ta’m, hid va struktura xususiyatlarini shakllantirishda muhim ahamiyat kasb etadi. Bugungi kunda ferment preparatlari nonvoychilik, qandolatchilik, sutni qayta ishlash, ichimliklar, go’sht va baliq mahsulotlari, yog‘- moy, kraxmal-patoka va boshqa sohalarda keng qo‘llanilmoqda [4, 6]. Amaliyotda ferment qo‘llashdan kutilgan natija xom ashyo tarkibi, pH, harorat, suv faolligi, ingibitorlar va texnologik vaqt kabi omillarga bog‘liq. Shu bois, fermentlarni tanlash va dozalashda texnologik maqsadni aniq belgilash hamda ishlab chiqarish nazoratini yo‘lga qo‘yish talab etiladi.

Materiallar va usullar

Maqola tahliliy-umimlashtiruvchi xarakterga ega bo‘lib, ochiq ilmiy manbalar, sohasiy qo‘llanmalar va standartlashtirish/xavfsizlik bo‘yicha yondashuvlar asosida tayyorlandi.

Natijalar va muhokama

Amilaza kraxmalni dekstrinlar va fermentlanuvchi qandlarga parchalash orqali xamirdagi gaz hosil bo'lishini va nonning hajmini oshiradi. Un tarkibidagi ksilanaza (arabinoksilanlarni parchalaydi) suvni qayta taqsimlab, xamirning ishlov berilish qobiliyatini yaxshilaydi va mayinlikni uzoqroq saqlashga yordam beradi. Proteaza glyuten to'rini qisman modifikatsiya qilib, ayrim mahsulotlarda (masalan, pechene) plastiklikni oshirishi mumkin, biroq ortiqcha dozalash strukturaning zaiflashishiga olib keladi [5].

Laktaza (β -galaktozidaza) laktozani glyukoza va galaktozaga gidroliz qilib, laktozaga tahammulsiz iste'molchilar uchun mahsulot ishlab chiqarish imkonini beradi. Bu, shuningdek, ayrim desertlarda tabiiy shirinlikni oshirishi va kristallanish xavfini kamaytirishi mumkin. Ximozin (rennin) esa pishloqchilikda kazein mitsellalarini koagulyatsiya qilish uchun asosiy ferment hisoblanadi; mikrobiologik va rekombinant ximozin manbalari sanoat amaliyotida keng qo'llanadi [1].

Pektinaza va sellyulaza mevali xom ashyodagi hujayra devorini parchalab, sharbat chiqishini oshiradi, filtratsiyani yengillashtiradi va tiniqlashga xizmat qiladi. Vinochilikda pektinazalar ekstraksiya va tiniqlash jarayonlarini jadallashtirishi mumkin. Pivoda esa kraxmalni shakarlash va susloning reologiyasini optimallashtirishda amilolitik fermentlardan foydalaniladi [2].

Proteaza go'shtni yumshatishda qo'llanadi, biroq bir xil teksturani ta'minlash uchun ta'sir vaqti va harorati qat'iy boshqarilishi kerak. Transglutaminaza oqsillar o'rtasida kovalent bog'lar hosil qilib, teksturani mustahkamlash, suv ushlab turish qobiliyatini oshirish va qayta tuzilgan mahsulotlar (surimi, kolbasa massalari) sifatiga ijobiy ta'sir ko'rsatishi mumkin [3].

Lipaza triglitseridlarni qisman gidroliz qilib, ayrim mahsulotlarda hid-bo'y va ta'm profilini shakllantirish yoki yog'larni intereterifikatsiya orqali funksional xossalarini o'zgartirishda qo'llanadi. Kraxmal sanoatida glyukoamilaza va pullulanaza kraxmalni glyukoza siroplariga aylantirish samaradorligini oshiradi [6].

Ferment preparatlari odatda texnologik yordamchi modda sifatida qo'llanadi va ko'p hollarda issiqlik ishlovi natijasida inaktivatsiyalanadi. Biroq, quyidagi jihatlar amalda muhim hisoblanadi:

Allergenlik xavfi: ayniqsa, ferment changlari bilan ishlaydigan xodimlar uchun kasbiy allergiya xavfi mavjud; ish joyida ventilyatsiya va individual himoya vositalari talab etiladi.

Qoldiq faollik: past haroratli jarayonlarda (masalan, ayrim sutli desertlar) ferment to'liq inaktivatsiyalanmasligi mumkin; bu retseptura va saqlash barqarorligiga ta'sir qiladi.

Mikrobiologik tozalik: ferment manbai va ishlab chiqarish texnologiyasiga qarab, endotoksinlar/ikkilamchi metabolitlar xavfi baholanishi lozim.

HACCP bilan integratsiya: kritik nazorat nuqtalari (CCP) sifatida dozalash aniqligi, inaktivatsiya rejimi va tayyor mahsulotdagi ko'rsatkichlar monitoringi belgilanadi.

Xulosa

Fermentlar oziq-ovqat sanoatida mahsulot sifatini barqarorlashtirish, texnologik chiqishni oshirish va resurs tejamkorligini ta'minlashda samarali instrument hisoblanadi. Eng yuqori natijaga erishish uchun fermentning turi va dozasi texnologik maqsadga mos tanlanishi, pH-harorat rejimlari optimallashtirilishi, inaktivatsiya va xavfsizlik nazorati (HACCP) ishlab chiqarish tizimiga joriy etilishi zarur.

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ПОНЯТИЕ И СУЩНОСТЬ ДИФФЕРЕНЦИРОВАННОГО ПОДХОДА

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Аннотация

В условиях модернизации системы образования и усиления ориентации на личностно-ориентированное обучение особую актуальность приобретает дифференцированный подход в образовательном процессе. В данной научной статье рассматриваются понятие, сущность и педагогическое значение дифференцированного подхода как одного из эффективных средств повышения качества образования. Анализируются теоретические основы дифференциации обучения, ее виды, уровни и формы реализации в образовательной практике. Особое внимание уделяется психолого-педагогическим предпосылкам дифференцированного обучения, а также его роли в развитии индивидуальных способностей, учебной мотивации и познавательной активности обучающихся. В статье обосновывается необходимость внедрения дифференцированного подхода в современных образовательных учреждениях и раскрываются его практические возможности в условиях вариативности содержания образования.

Ключевые слова: дифференцированный подход, дифференциация обучения, индивидуализация, образовательный процесс, личностно-ориентированное обучение, педагогические технологии.

ВВЕДЕНИЕ

Современный этап развития образования характеризуется переходом от унифицированной модели обучения к гибкой системе, ориентированной на личность обучающегося. Увеличение объема информации, разнообразие образовательных потребностей и различия в уровне подготовки учащихся требуют переосмысления традиционных подходов к организации учебного процесса. В этих условиях особую значимость приобретает дифференцированный подход, направленный на учет индивидуальных особенностей, интересов и возможностей каждого обучающегося.

Дифференцированный подход в образовательном процессе рассматривается как важное условие обеспечения качества образования, повышения эффективности обучения и создания благоприятной образовательной среды. Он позволяет преодолеть противоречие между едиными образовательными стандартами и индивидуальными различиями учащихся, обеспечивая оптимальные условия для их развития.

Несмотря на значительное количество исследований, посвященных проблеме дифференциации обучения, остается актуальной задача комплексного осмысления сущности дифференцированного подхода, его теоретических оснований и практических механизмов реализации. В связи с этим данная статья направлена на научный анализ понятия и сущности дифференцированного подхода в образовательном процессе.

Теоретические основы дифференцированного подхода

Понятие дифференцированного подхода

В педагогической науке дифференцированный подход трактуется как организация обучения с учетом индивидуальных различий обучающихся, проявляющихся в уровне знаний, способностях, интересах, темпе усвоения учебного материала и познавательной активности. Он предполагает варьирование содержания, методов, форм и темпа обучения в зависимости от особенностей учащихся.

Сущность дифференцированного подхода заключается в создании таких педагогических условий, при которых каждый обучающийся получает возможность максимально реализовать свой образовательный потенциал. При этом дифференциация не означает отказ от общих образовательных целей, а предполагает гибкие пути их достижения.

Дифференциация и индивидуализация обучения

Дифференцированный подход тесно связан с понятием индивидуализации обучения, однако не тождествен ему. Индивидуализация ориентирована на уникальные особенности каждого учащегося, тогда как дифференциация предполагает объединение обучающихся в группы на основе сходных характеристик.

Таким образом, дифференцированный подход выступает как промежуточное звено между фронтальным обучением и полной индивидуализацией, обеспечивая баланс между массовым характером образования и индивидуальными образовательными потребностями.

Сущность дифференцированного подхода в образовательном процессе

Психолого-педагогические предпосылки

Дифференцированный подход опирается на фундаментальные положения возрастной и педагогической психологии. Индивидуальные различия в когнитивных стилях, уровне развития мышления, мотивации и эмоционально-волевой сфере обуславливают необходимость дифференциации обучения.

С точки зрения психологии, обучение становится более эффективным, когда содержание и способы деятельности соответствуют зоне ближайшего развития обучающегося. Дифференцированный подход позволяет реализовать данный принцип на практике. **Основные виды дифференциации обучения**

В педагогической теории выделяются следующие виды дифференциации:

Внутренняя дифференциация, осуществляемая в рамках одного класса;

Внешняя дифференциация, предполагающая разделение учащихся по профилям, уровням или направлениям обучения; Уровневая дифференциация, основанная на различиях в степени сложности учебного материала;

Профильная дифференциация, ориентированная на профессиональные интересы обучающихся. Каждый из этих видов выполняет специфические функции и может использоваться в зависимости от целей и условий образовательного процесса. **Формы реализации дифференцированного подхода.** Практическая реализация дифференцированного подхода осуществляется через:

вариативные учебные задания;

разноуровневые программы и учебные материалы;

гибкие методы и формы обучения;

использование индивидуальных и групповых форм работы;

применение современных педагогических технологий.

Такие формы организации обучения способствуют активизации познавательной деятельности и повышению учебной мотивации учащихся.

Значение дифференцированного подхода для развития личности обучающегося

Дифференцированный подход играет важную роль в развитии личности обучающегося. Он способствует формированию самостоятельности, ответственности за результаты обучения и положительной учебной мотивации. Учет индивидуальных особенностей позволяет снизить уровень учебной тревожности и создать ситуацию успеха для каждого учащегося.

Кроме того, дифференциация обучения создает условия для развития творческого потенциала, критического мышления и коммуникативных навыков, что особенно важно в условиях компетентностного подхода.

Заключение

Дифференцированный подход в образовательном процессе представляет собой важный педагогический принцип, направленный на повышение качества и эффективности обучения. Его сущность заключается в учете индивидуальных различий обучающихся и создании оптимальных условий для их всестороннего развития.

Научный анализ показывает, что дифференцированный подход способствует гуманизации образования, реализации личностно-ориентированной парадигмы и формированию устойчивой учебной мотивации. Внедрение дифференцированного подхода в образовательную практику является необходимым условием успешного функционирования современной системы образования.

Перспективы дальнейших исследований связаны с разработкой методических моделей дифференцированного обучения и изучением эффективности их применения в различных образовательных контекстах.

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АНОМАЛЬНЫЕ МАТОЧНЫЕ КРОВОТЕЧЕНИЯ: ПРИЧИНЫ И ПОДХОДЫ К ЛЕЧЕНИЮ

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Аннотация. В статье рассматриваются аномальные маточные кровотечения как одна из наиболее распространённых гинекологических проблем у женщин репродуктивного возраста, подростков и в период перименопаузы. Раскрывается клиническое и социально-медицинское значение данной патологии, её влияние на качество жизни и репродуктивное здоровье женщин. Особое внимание уделяется современным представлениям о причинах развития аномальных маточных кровотечений, включая гормональные нарушения, структурные изменения матки, воспалительные процессы и системные заболевания. Представлена классификация причин аномальных маточных кровотечений согласно международным рекомендациям (PALM–COEIN). Также освещаются основные диагностические подходы и современные методы лечения, включающие медикаментозную терапию и хирургические вмешательства. Материал может быть использован в клинической практике и научных исследованиях в области акушерства и гинекологии.

Ключевые слова: аномальные маточные кровотечения, гинекология, гормональные нарушения, PALM–COEIN, диагностика, медикаментозное лечение, хирургические методы, репродуктивное здоровье.

ВВЕДЕНИЕ

Аномальные маточные кровотечения (АМК) являются одной из наиболее актуальных проблем современной гинекологии и занимают ведущее место в структуре обращаемости женщин за медицинской помощью. По данным клинических наблюдений, до 30–40 % женщин репродуктивного возраста хотя бы один раз в жизни сталкиваются с нарушениями менструального цикла, проявляющимися в виде аномальных маточных кровотечений [1]. Данная патология встречается не только у женщин репродуктивного возраста, но также широко распространена в подростковом периоде и в перименопаузе, что подчёркивает её межвозрастной и социально-медицинский характер.

Аномальные маточные кровотечения характеризуются изменением объёма, продолжительности и регулярности менструальных выделений и могут значительно снижать качество жизни пациенток, приводя к развитию анемии,

хронической усталости, снижению трудоспособности и нарушению репродуктивной функции [2]. В ряде случаев АМК являются первым клиническим проявлением серьёзных гинекологических и экстрагенитальных заболеваний, включая гормональные дисфункции, структурные патологии матки, воспалительные процессы и системные нарушения гемостаза [3].

Современные подходы к изучению аномальных маточных кровотечений базируются на многофакторной природе данной патологии. В 2011 году Международная федерация акушеров и гинекологов (FIGO) предложила классификацию PALM–COEIN, которая позволила систематизировать причины АМК на структурные и неструктурные, что значительно упростило диагностический и лечебный алгоритм [4]. Внедрение данной классификации способствовало стандартизации клинического мышления и повышению эффективности медицинской помощи.

Несмотря на достижения современной медицины, проблема аномальных маточных кровотечений остаётся недостаточно решённой, что связано с разнообразием этиологических факторов, индивидуальными особенностями пациенток и ограничениями отдельных методов лечения. В связи с этим актуальным является комплексный анализ причин развития АМК и современных подходов к их лечению, основанных на принципах доказательной медицины [5].

Анализ литературы

Аномальные маточные кровотечения (АМК) на протяжении многих лет остаются предметом активного изучения в гинекологии, поскольку данная патология отличается многофакторным характером и сложностью диагностики. По мнению И.Б. Манухина, АМК представляют собой клинко-патологический синдром, связанный с нарушением нейроэндокринной регуляции менструального цикла, а также с органическими изменениями в органах репродуктивной системы [6]. Автор подчёркивает, что в основе большинства случаев АМК лежит дисфункция гипоталамо-гипофизарно-яичниковой системы, особенно у женщин репродуктивного возраста.

В трудах В.Е. Радзинского аномальные маточные кровотечения рассматриваются как важная медико-социальная проблема, приводящая к анемии, снижению трудоспособности и ухудшению качества жизни женщин [7]. В своих исследованиях автор отмечает, что отсутствие своевременной диагностики и рациональной терапии АМК может способствовать развитию хронических гинекологических заболеваний и нарушению репродуктивной функции.

Согласно взглядам Л.В. Адамян, значительную роль в развитии аномальных маточных кровотечений играют структурные изменения матки, такие как миома, полипы эндометрия и аденомиоз [8]. В её работах подчёркивается, что органические причины АМК особенно часто выявляются у женщин старше 35 лет, что требует комплексного диагностического подхода с использованием инструментальных методов исследования.

В клинических рекомендациях Всемирной организации здравоохранения указывается, что аномальные маточные кровотечения могут быть обусловлены не только гинекологическими, но и системными заболеваниями, включая патологии системы гемостаза и эндокринные расстройства [9]. В этих источниках подчёркивается необходимость междисциплинарного подхода при обследовании пациенток с АМК.

В работах А.Г. Кулакова и соавторов отмечается важность внедрения международной классификации причин аномальных маточных кровотечений PALM–COEIN, которая позволяет стандартизировать диагностику и выбрать оптимальную тактику лечения [10]. Авторы указывают, что применение данной классификации в клинической практике способствует снижению числа диагностических ошибок и повышению эффективности терапии.

Таким образом, анализ научной литературы показывает, что аномальные маточные кровотечения являются многоаспектной проблемой, требующей комплексного подхода к изучению причин, диагностики и лечению. Современные исследования подчёркивают необходимость индивидуализации терапии с учётом возраста пациентки, репродуктивных планов и сопутствующих заболеваний.

Методология исследования

В данном исследовании использованы методы системного анализа и обобщения научной литературы, посвящённой проблеме аномальных маточных кровотечений. В процессе работы применялся сравнительный анализ отечественных и зарубежных источников для выявления основных причин и подходов к лечению данной патологии. Также использовались клинико-логический и аналитический методы для оценки современных диагностических и терапевтических стратегий. Полученные данные были структурированы и интерпретированы с целью формирования целостного научного представления об аномальных маточных кровотечениях.

Анализ и результаты исследования

Проведённый анализ научных источников и клинических данных показывает, что аномальные маточные кровотечения (АМК) являются многофакторной патологией, в развитии которой участвуют как функциональные, так и органические механизмы. Согласно данным отечественных исследователей, наиболее часто АМК выявляются у женщин репродуктивного возраста, при этом значительная доля случаев связана с гормональным дисбалансом и нарушением овуляторной функции [11]. Нарушения секреции эстрогенов и прогестерона приводят к неравномерному росту эндометрия, что клинически проявляется нерегулярными и обильными кровотечениями.

Результаты анализа показывают, что у женщин старше 35–40 лет возрастает роль структурных причин АМК, таких как миома матки, полипы эндометрия и аденомиоз. По данным клинических наблюдений, именно органическая патология чаще всего обуславливает хроническое течение заболевания и резистентность к консервативной терапии [12]. В этих случаях медикаментозное лечение носит преимущественно симптоматический характер и нередко требует дополнения хирургическими методами.

Систематизация полученных данных позволила выявить взаимосвязь между причиной аномальных маточных кровотечений и выбором лечебной тактики. При функциональных АМК наибольшую эффективность демонстрирует гормональная терапия, направленная на восстановление менструального цикла и профилактику рецидивов. В то же время при органических формах заболевания приоритет отдаётся малоинвазивным хирургическим вмешательствам с последующей медикаментозной поддержкой.

В ходе анализа также установлено, что применение классификации PALM–COEIN способствует более точной диагностике и стандартизации подходов к лечению АМК. Использование данной классификации позволяет врачу не только определить ведущий этиологический фактор, но и спрогнозировать течение заболевания и возможные осложнения, включая развитие железодефицитной анемии и снижение репродуктивного потенциала женщины [13].

Обобщённые результаты исследования представлены в таблице, отражающей основные причины аномальных маточных кровотечений и рекомендуемые подходы к лечению.

1-таблица

**Основные причины аномальных маточных кровотечений и методы
лечения**

Причина АМК	Характеристика	Основные методы лечения

Гормональные нарушения	Ановуляция, дисфункция яичников	Комбинированные оральные контрацептивы, гестагены
Полипы эндометрия	Локальные разрастания эндометрия	Гистероскопия, полипэктомия
Миома матки	Доброкачественные опухоли миометрия	Медикаментозная терапия, миомэктомия
Аденомиоз	Инвазия эндометрия в миометрий	Гормональная терапия, хирургическое лечение
Системные заболевания	Нарушения гемостаза, эндокринные патологии	Лечение основного заболевания

Таким образом, результаты анализа подтверждают, что аномальные маточные кровотечения требуют комплексного и индивидуализированного подхода. Эффективность лечения во многом зависит от своевременного выявления причины заболевания и рационального сочетания медикаментозных и хирургических методов. Полученные выводы согласуются с современными научными представлениями и могут быть использованы при разработке клинических рекомендаций и дальнейших научных исследований.

Заключение

В проведённом исследовании аномальные маточные кровотечения рассматривались как сложная многофакторная патология, включающая как функциональные, так и органические причины. Анализ литературы и клинических данных показал, что правильное определение этиологии АМК является ключевым фактором для выбора эффективной лечебной стратегии. Функциональные формы заболевания требуют преимущественно гормональной коррекции, направленной на восстановление нормального менструального цикла, в то время как органические формы чаще требуют сочетания хирургических и медикаментозных методов.

Использование современных классификаций, таких как PALM–COEIN, позволяет систематизировать диагноз, прогнозировать течение болезни и минимизировать риски осложнений, включая железодефицитную анемию и снижение репродуктивного потенциала. Результаты исследования подтверждают, что комплексный, индивидуализированный подход к лечению АМК повышает эффективность терапии, способствует улучшению качества жизни пациенток и снижению числа рецидивов.

Таким образом, успешная профилактика и лечение аномальных маточных кровотечений требует интеграции современных диагностических методов, междисциплинарного подхода и своевременной коррекции выявленных нарушений, что является залогом повышения эффективности медицинской помощи женщинам репродуктивного возраста.

Использованная литература:

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TIL O‘QITISHDA KOMPETENSIYAGA ASOSLANGAN VA O‘QUVCHIGA YO‘NALTIRILGAN YONDASHUVLARNING INTEGRATSIYASI

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Annotatsiya: Ushbu maqolada til o‘qitish jarayonida kompetensiyaga asoslangan yondashuv hamda o‘quvchiga yo‘naltirilgan yondashuvlarning o‘zaro integratsiyasi tahlil qilinadi. Maqolada zamonaviy ta’lim tizimida kompetensiya tushunchasining mazmuni, o‘quvchining faol ishtirokini ta’minlovchi metodlar, shuningdek, ushbu yondashuvlar uyg‘unlashuvi natijasida ta’lim sifati va samaradorligining oshishi ilmiy asosda bayon etiladi. Integratsion yondashuvning afzalliklari sifatida o‘quvchilarda mustaqil fikrlash, ijodkorlik va kommunikativ kompetensiyalarni rivojlantirish imkoniyatlari ko‘rsatib o‘tiladi.

Kalit so‘zlar: kompetensiyaga asoslangan yondashuv, o‘quvchiga yo‘naltirilgan ta’lim, integratsiya, kommunikativ kompetensiya, til o‘qitish, interfaol metodlar, mustaqil fikrlash.

Kirish

Bugungi globallashuv davrida ta’lim tizimi doimiy ravishda yangilanib borayotgan bo‘lib, o‘qituvchilardan o‘quvchilarda hayotiy, kasbiy va kommunikativ kompetensiyalarni shakllantirish talab etiladi. Ayniqsa, chet tillarni o‘qitishda kompetensiyaga asoslangan va o‘quvchiga yo‘naltirilgan yondashuvlarning integratsiyasi o‘quv jarayonini yangi bosqichga olib chiqadi.

Kompetensiyaga asoslangan yondashuvning mohiyati — o‘quvchilarga nazariy bilim emas, balki amaliy qo‘llay oladigan ko‘nikma va malakalarni shakllantirishdir. O‘quvchiga yo‘naltirilgan yondashuv esa, o‘quvchini o‘quv jarayonining markaziga qo‘yib, uning shaxsiy ehtiyojlari, qobiliyatlari va qiziqishlarini inobatga oladi. Shu bois, ushbu ikki yondashuvni uyg‘unlashtirish zamonaviy til o‘qitishda muhim pedagogik zaruratdir.

Asosiy qism

1. 1. Kompetensiyaga asoslangan yondashuvning mohiyati

Kompetensiyaga asoslangan yondashuvda o‘quvchilarning bilimi emas, balki ularning bilimni real hayotiy vaziyatlarda qo‘llay olish qobiliyati baholanadi. Bu yondashuvda o‘qituvchi bilim manbai emas, balki yo‘l-yo‘riq beruvchi, maslahatchi va motivator sifatida namoyon bo‘ladi.

Til o‘qitish jarayonida bu yondashuv quyidagi kompetensiyalarni shakllantirishni ko‘zda tutadi:

- lingvistik kompetensiya – til tizimini bilish va qo‘llay olish;
- sotsiolingvistik kompetensiya – muloqot madaniyati va ijtimoiy moslashuv;
- pragmatik kompetensiya – nutq vaziyatiga mos ravishda til vositalarini tanlay olish;
- madaniy kompetensiya – xorijiy madaniyatni tushunish va unga hurmat bilan yondashish.

2. 2. O‘quvchiga yo‘naltirilgan yondashuvning xususiyatlari

O‘quvchiga yo‘naltirilgan ta’lim o‘quvchini passiv qabul qiluvchidan faol ishtirokchiga aylantiradi. Bu yondashuvda o‘qituvchi o‘quvchining shaxsiy rivojlanish yo‘lini ko‘rsatadi, ularni hamkorlikda ishlashga, o‘z fikrini mustaqil ifodalashga va ijodiy yondashishga o‘rgatadi.

Bunday yondashuvda interfaol metodlar — “Aqliy hujum”, “Klaster”, “Juftlikda ishlash”, “Rol o‘ynash” kabi usullar muhim o‘rin tutadi. Bu metodlar o‘quvchilarni tilni o‘rganishda faol, o‘zaro muloqotda bo‘lishga undaydi.

3. 3. Integratsion yondashuvning afzalliklari

Kompetensiyaga asoslangan va o‘quvchiga yo‘naltirilgan yondashuvlar integratsiyasi natijasida o‘quv jarayonida quyidagi ijobiy natijalar kuzatiladi:

1. O‘quvchi o‘z ta’limiga mas’uliyat bilan yondashadi.
2. Dars jarayonida o‘qituvchi va o‘quvchi o‘rtasida samarali muloqot yuzaga keladi.
3. O‘quvchi tildan foydalanish orqali real vaziyatlarda muloqotga kirishishni o‘rganadi.
4. O‘qitish jarayonida refleksiya, baholash va o‘z-o‘zini tahlil qilish ko‘nikmalari shakllanadi.

Integratsion yondashuv o‘qituvchidan yuqori darajadagi pedagogik mahorat, darsni rejalashtirishda kreativlik va moslashuvchanlikni talab qiladi. Shuningdek, darsda o‘quvchining shaxsiy o‘sishiga e’tibor qaratish, unga rag‘bat berish ham muhim omildir.

Xulosa

Til o‘qitishda kompetensiyaga asoslangan va o‘quvchiga yo‘naltirilgan yondashuvlarning integratsiyasi ta’limning sifatini oshirish, o‘quvchilarda hayotiy ko‘nikmalarni shakllantirish hamda mustaqil fikrlovchi shaxsni tarbiyalashda muhim ahamiyat kasb etadi. Bu integratsiya natijasida o‘quvchi faqat tilni o‘rganibgina qolmay, balki uni real hayotda qo‘llashga, muloqotda samarali bo‘lishga o‘rganadi. Shunday qilib, zamonaviy o‘qituvchining vazifasi – bu ikki yondashuvni

uyg'unlashtirgan holda o'quvchini faol, mustaqil va kreativ fikrlovchi shaxs sifatida shakllantirishdir.

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MODELING THE GROWTH RATE OF FRUIT AND VEGETABLE EXPORTS IN SURKHANDARYA REGION USING A LOGISTIC DIFFERENTIAL ECONOMETRIC MODEL

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Abstract.

The study is devoted to modeling the growth rate of fruit and vegetable exports in Surkhandarya region using a logistic differential econometric approach. Export dynamics are considered as a nonlinear process with a saturation limit determined by market capacity, production potential, and logistics constraints. The evolution of export volume is described by the following differential equation:

$$\frac{dN(t)}{dt} = \mu N(t) \left(1 - \frac{N(t)}{N_{max}} \right)$$

where $N(t)$ - is the export volume at time t , μ -is the intrinsic growth coefficient, and N_{max} - represents the maximum potential export capacity of the region.

Statistical data for 2010–2025 were used to estimate model parameters. The continuous model was discretized, and parameters were identified using econometric estimation techniques. The results indicate that export growth demonstrates an S-shaped trajectory: rapid expansion at the initial stage followed by gradual slowdown as the market approaches its saturation level. According to the estimates, current exports have reached approximately 70–75% of the potential capacity, which implies the necessity of structural transformations to maintain further growth.

The logistic differential model proved to be more adequate than traditional linear regressions for describing export dynamics, as it captures both the level and the rate of change. The model allows medium-term forecasting and evaluation of alternative development scenarios, including expansion of processing industries, diversification of target markets, and improvement of transport infrastructure.

The findings can be used in regional export strategy design, optimization of agricultural clusters, and formulation of evidence-based policy measures aimed at increasing competitiveness of fruit and vegetable products from Surkhandarya region.

Keywords: logistic differential model, export growth rate, econometric identification, market capacity, fruit and vegetable exports, Surkhandarya region.

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THE ROLE OF HEROIC IMAGERY IN TRANSLATION AND INTERCULTURAL COMMUNICATION

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Annotation. This thesis examines how heroic imagery in literature is translated across cultures – focusing on Uzbek epic narratives and their English counterparts – and what these translations reveal about intercultural communication. The study outlines cultural differences in defining a “hero,” reviews translation strategies for culturally specific heroic references, and analyzes examples (such as the Uzbek epic hero Alpomish) in translation. Through this analysis, it highlights how translators mediate cultural values, either bridging or widening gaps, and the implications for cross-cultural understanding.

Key words: *heroic imagery; translation; intercultural communication; Uzbek epic; cultural values.*

INTRODUCTION

Heroic figures in literature carry deep cultural significance. They embody the virtues, ideals, and values cherished by their society. When such heroic imagery travels across languages through translation, it becomes a site of intercultural exchange. The way a legendary hero is portrayed in the source culture may not directly resonate with target-culture readers, posing challenges for translators. For instance, an Uzbek reader invokes national heroes like Alpomish – a brave folk epic warrior as symbols of strength and loyalty. An English reader, however, might be more familiar with heroes like Beowulf or Hercules, with somewhat different heroic ideals. Translation, therefore, is not only a linguistic task but also a cultural negotiation. This thesis explores how translators handle heroic imagery between Uzbek literature and a Western language (English), and what these decisions reveal about intercultural communication. By comparing the representation of heroism in source and target texts, we can glean insights into each culture’s values and how translation can either preserve or alter those values.

LITERATURE REVIEW

Across cultures, hero narratives serve as a mirror of societal values. Uzbek literature, particularly its rich corpus of oral epics (*doston*), extols traits like bravery, honor, loyalty to one's clan or homeland, and self-sacrifice. The epic hero **Alpomish**, for example, “*glorifies the ideas of heroism, bravery, and love for the motherland*” and epitomizes tribal loyalty and justice. In contrast, Anglo-European heroic tradition (e.g., the Old English epic *Beowulf*) prizes individual strength, personal glory, and the pursuit of everlasting renown. A comparative study by Rayimkulova and Musurmanov highlighted that Alpomish represents communal virtues and perseverance, whereas Beowulf embodies individual valor and the “*pursuit of immortality through fame*” [1]. Such differences underscore that **heroic imagery is culturally specific**: each culture's literature builds its hero archetypes around what it admires most.

Translating these culturally embedded images is challenging. Classic translation theory (e.g. Nida's concept of dynamic equivalence) suggests that translators should convey not just words but their cultural impact [2]. In practice, this may mean finding analogous heroes or explanatory strategies. Venuti describes a spectrum between *domestication* – adapting foreign elements to be familiar for target readers – and *foreignization* – preserving the source culture reference [3]. In the context of heroic imagery, a translator must decide whether to replace an Uzbek hero's name or epithet with a more familiar one in the target culture, or retain it and perhaps add context. Each choice can alter the reader's perception of the hero and the values they signify, making the translation of heroes a revealing exercise in intercultural communication.

ANALYSIS

Translating Culturally-Bound Heroic Imagery. When heroic literature crosses linguistic borders, translators act as cultural mediators. Consider the Uzbek epic Alpomish. In Uzbek, calling someone “Alpomishday” (“like Alpomish”) immediately evokes an image of exceptional strength and courage. An English translator facing this simile has several options: (1) Keep the reference (foreignization) – e.g., “as strong as

Alpomish” – and add a footnote or woven explanation that Alpomish is a legendary Uzbek hero famed for his strength. This preserves the source culture’s identity, allowing the target reader a glimpse into Uzbek cultural lore. (2) Substitute with a roughly equivalent local hero (domestication) – e.g., “as strong as Hercules” – which conveys meaning quickly to the reader but replaces the cultural reference. The decision profoundly affects intercultural communication: retaining “Alpomish” invites readers to learn about Uzbek culture, whereas replacing him with “Hercules” prioritizes immediate comprehension over cultural nuance.

Revealing Cultural Values. How heroic imagery is translated can reveal what each culture values in its heroes. In Uzbek epics, heroes often fight for community, family honor, or the homeland, and are aided by loyal companions (even magical horses) as part of a collective narrative. In English renditions, a translator might amplify the individualistic aspects of the hero to align with Western expectations (e.g., highlighting Alpomish’s personal bravery over his role as tribal leader), or conversely, choose to emphasize the communal context to educate readers about a different ethos. Either approach sheds light on intercultural perception: if the translation downplays communal elements, it may indicate an assumption that the target audience values individual heroism more. If it preserves those elements, it signals an effort to bridge cultural perspectives.

Case in Point and Epic Style and Annotation. Central Asian heroic epics often use elaborate hyperbole and stock epithets. A direct translation of these might seem overwrought to English readers. Translators sometimes employ a technique known as “thick translation,” providing rich annotations and contextual commentary. For example, in translating the Kyrgyz epic *Manas*, English translators added explanations for culturally specific heroics and symbolism. An analogous approach for Alpomish might include endnotes explaining cultural concepts of heroism (such as why loyalty to kin is paramount). This strategy fosters intercultural communication by not only translating the text but also educating the reader about the source culture’s worldview.

In summary, the translation of heroic imagery is a delicate balancing act. Each choice, whether to domesticate a reference or maintain its foreign flavor, communicates something about how cultures can understand each other's ideals. Through these choices, translators either smooth out differences or highlight them, thus shaping the intercultural dialogue that occurs whenever a hero's story is retold in another tongue.

CONCLUSION

The way heroic imagery is handled in translation offers a revealing lens on intercultural communication. As seen with Uzbek and English examples, heroes like Alpomish and Beowulf encapsulate their culture's core values, from collective duty to personal glory. Translators must convey not just the literal feats of these heroes but the cultural ethos they represent. A successful translation does more than find linguistic equivalents, it bridges value systems. When an Uzbek tale of heroism is translated for an English audience, the translator's decisions (what to explain, what to adapt, what to retain) determine how much of the source culture's concept of heroism shines through. By carefully balancing familiarity and foreignness, translators can ensure that heroic imagery serves as a conduit for cultural insight rather than a barrier. In doing so, they enable literature to fulfill one of its highest roles: fostering empathy and understanding across cultural divides. Thus, the study of heroic imagery in translation underscores the power of translation choices in either reinforcing stereotypes or deepening intercultural appreciation, ultimately highlighting the translator's role as an ambassador between worlds.

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VENEERS IN AESTHETIC DENTISTRY: ADVANTAGES AND COMPLICATIONS

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Abstract. Veneers have become a cornerstone of modern aesthetic dentistry, offering minimally invasive solutions for improving tooth appearance, color, shape, and alignment. This article reviews the clinical applications, advantages, and potential complications associated with dental veneers. Emphasis is placed on the differences between ceramic and composite veneers, their preparation protocols, longevity, and patient satisfaction. The study also analyzes common risks, including tooth sensitivity, marginal discoloration, and veneer debonding. Overall, veneers provide an effective approach to achieving aesthetic and functional dental outcomes, although careful case selection, material choice, and clinical technique are critical to minimize complications and ensure long-term success.

Keywords: veneers, aesthetic dentistry, dental restorations, ceramic veneers, composite veneers; clinical complications; minimally invasive dentistry

INTRODUCTION

In contemporary aesthetic dentistry, veneers have emerged as a popular and minimally invasive solution for improving the appearance of anterior teeth. They allow for correction of tooth discoloration, minor malformations, spacing issues, and slight misalignments without the extensive preparation required for full crowns. According to Peumans et al., veneers can provide highly aesthetic outcomes while preserving the natural tooth structure, which is a major advantage in patient-centered restorative treatments.

The clinical success of veneers depends on several factors, including the choice of material, preparation technique, adhesive protocol, and occlusal considerations. Ceramic veneers are often preferred due to their superior optical properties, biocompatibility, and long-term color stability, whereas composite veneers offer a more cost-effective and easily repairable option. Despite their advantages, veneers are not without potential complications, such as marginal discoloration, debonding, and tooth sensitivity, which must be carefully managed through proper case selection and clinical technique.

Overall, veneers represent a balance between aesthetic improvement and functional preservation, making them a key tool in modern cosmetic dentistry. Understanding their indications, advantages, and possible complications is essential for achieving predictable and long-lasting results.

Literature Review

According to Peumans et al., ceramic veneers are highly valued in aesthetic dentistry due to their superior optical properties, color stability, and biocompatibility [1]. In their study, it is emphasized that ceramic veneers can achieve long-lasting aesthetic results with minimal tooth reduction, making them a preferred choice for anterior restorations. As stated by McLaren and Garber, composite veneers offer a versatile and cost-effective alternative to ceramics, providing easier intraoral repair and adjustment [2]. The authors highlight that although composite veneers are less durable than ceramics, advances in resin technology have significantly improved their mechanical properties and clinical performance.

According to Layton et al., the clinical success of veneers is strongly influenced by proper case selection, preparation technique, and adhesive protocol [3]. Their research indicates that careful patient assessment and adherence to recommended bonding procedures reduce the risk of veneer failure, including debonding and marginal discoloration.

Furthermore, as noted by van Dijken, long-term studies show that ceramic veneers exhibit higher survival rates and lower incidence of complications compared to composite veneers [4]. The author emphasizes the importance of occlusal management and avoidance of parafunctional habits to ensure longevity and predictability of veneer restorations.

Finally, according to Friedman, patient satisfaction is closely linked to the aesthetic outcome and functional performance of veneers [5]. The study demonstrates that proper communication of treatment expectations and precise clinical execution are essential for achieving optimal patient-reported outcomes.

Methodology

This study is based on a comprehensive review and qualitative analysis of scientific literature concerning veneers in aesthetic dentistry. Peer-reviewed articles, clinical reports, and textbooks were selected to evaluate the advantages, limitations, and potential complications of ceramic and composite veneers. The selected studies were analyzed to compare material properties, clinical performance, longevity, and patient satisfaction. A thematic synthesis was conducted to identify key factors influencing the success of veneer restorations and to provide evidence-based recommendations for

clinical practice. The findings were then integrated to present a coherent overview of current trends and challenges in veneer application.

Results and Discussion

The analysis of recent clinical studies highlights that both ceramic and composite veneers offer significant aesthetic improvements and functional benefits, although their long-term performance and complications differ. According to Peumans et al., ceramic veneers demonstrate superior color stability, biocompatibility, and resistance to wear compared to composite veneers, resulting in higher patient satisfaction and longer clinical longevity [6]. This is largely due to the inherent material properties of ceramics, including their hardness and resistance to staining, which allow veneers to maintain aesthetic outcomes over time.

Composite veneers, while less durable, provide advantages in terms of minimal invasiveness and ease of repair. McLaren and Garber emphasize that modern resin composites have improved mechanical strength and adhesion protocols, enabling acceptable short- to medium-term results with the option for intraoral adjustments [7]. However, they also note that composite veneers are more prone to marginal discoloration and surface degradation compared to ceramics.

Case selection, preparation technique, and adhesive protocol are critical factors influencing veneer success. As stated by Layton et al., improper tooth preparation or bonding can lead to common complications such as veneer debonding, microleakage, and post-operative tooth sensitivity [8]. Clinical studies have shown that precise enamel reduction, accurate impression taking, and appropriate adhesive selection significantly reduce these risks, enhancing both functional and aesthetic outcomes.

Long-term evaluations indicate that ceramic veneers generally exhibit higher survival rates and fewer complications over time. Van Dijken reports that ceramic veneers maintain over 90% survival after 10 years when proper case selection and occlusal management are applied, whereas composite veneers tend to require more frequent maintenance and repairs [9]. Additionally, patient-reported outcomes highlight that satisfaction is closely associated with the aesthetic appearance, including translucency, shape, and color match, rather than only functional performance [10].

The comparative performance of different veneer types is summarized in Table 1, which illustrates key clinical parameters, advantages, and potential complications.

Table 1.

Comparative Characteristics of Ceramic and Composite Veneers

Veneer Type	Longevity	Color Stability	Repairability	Tooth Preparation	Common Complications

Ceramic	High	Excellent	Limited	Moderate	Debonding, fracture [1,3]
Composite	Moderate	Moderate	High	Minimal	Discoloration, wear [2,3]

Overall, the results indicate that veneers represent a reliable and minimally invasive approach to aesthetic rehabilitation when appropriate material selection, precise clinical technique, and patient management are applied. Ceramic veneers are preferred for long-term durability and optimal aesthetics, whereas composite veneers offer flexibility and cost-effectiveness for shorter-term or less demanding cases. Understanding material properties, procedural protocols, and potential complications is essential for achieving predictable clinical outcomes and high patient satisfaction.

Conclusion

Veneers are a highly effective and minimally invasive solution in aesthetic dentistry, offering significant improvements in tooth appearance, color, shape, and alignment. Ceramic veneers provide superior long-term durability, color stability, and biocompatibility, making them the preferred choice for patients seeking lasting aesthetic results. Composite veneers, while more prone to discoloration and wear, offer flexibility, ease of repair, and lower cost, making them suitable for less demanding cases. Clinical success depends on careful case selection, precise tooth preparation, appropriate adhesive techniques, and effective patient management. Overall, when properly planned and executed, veneers provide predictable, functional, and aesthetically pleasing outcomes, enhancing patient satisfaction and contributing to modern restorative dental practice.

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«УЗБЕКСКИЙ ТЕКСТ В РУССКОЙ ЛИТЕРАТУРЕ XX- XXI ВЕКОВ...»

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Аннотация: Тезис посвящена имагологическому анализу образа Узбекистана и узбекского в русской литературе XX века. Впервые в отечественном литературоведении узбекский текст рассматривается как имагологема – культурный конструкт, формирующий представление о «восточном другом». На материале произведений А. П. Платонова, В. П. Катаева, Ю. В. Домбровского, В. М. Пескова, Сухбата Афлатуни выявлены доминантные стереотипы (советский Восток, «потерянный рай», «внутренняя колония») и показана их эволюция от соцреализма до постмодернизма. Так же произведений советского С. Бородин, К. Симонов постсоветского периодов А. Иличевский, Г. Явлинский выявляются устойчивые мифологемы, стереотипы и попытки их деконструкции. Делается вывод о переходе от монологического конструирования экзотического «чужого» к полифонии голосов и сложным идентификационным стратегиям.

Использованы имагологический, постколониальный и интертекстуальный методы. Результаты могут быть использованы при чтении спецкурсов по сравнительному литературоведению и истории русско-восточного литературного диалога.

Ключевые слова: имагология; узбекский текст; русская литература; образ Востока; постколониализм; советский ориентализм; стереотип; культурная идентичность; Платонов; Домбровский.

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"UZBEK TEXT IN RUSSIAN LITERATURE OF THE XX-XXI CENTURIES..."

Abstract. The thesis offers an imagological study of Uzbekistan's image in 20th-century Russian literature. For the first time in Russian literary scholarship the Uzbek text is treated as an imagologeme - a cultural construct shaping the idea of the "Oriental Other". Based on the works by A. Platonov, V. Kataev, Yu. Dombrovsky, V. Peskov, Sukhbat Aflatuni the paper identifies dominant stereotypes (Soviet Orient, "lost

paradise “, “innercolony”) and traces their evolution from Socialist Realism to postmodernism. Imagological, post-colonial and intertextual methods are applied. Also the works of the Soviet S. Borodin, K. Simonov of the post-Soviet periods A. Ilichevsky, G. Yavlinsky reveals stable mythologems, stereotypes and attempts to deconstruct them. A conclusion is drawn about the transition from the monological construction of an exotic "alien" to the polyphony of voices and complex identification strategies. The findings can be used in comparative-literature courses and the history of Russian-Oriental literary dialogue.

Keywords: imagology; Uzbek text; Russian literature; image of the Orient; post-colonialism; Soviet Orientalism; stereotype; cultural identity; Platonov; Dombrovsky.

Имагология (фр. Imagologie) – сравнительно-литературная дисциплина, изучающая национальные стереотипы и представления о «другом» как культурные конструкторы [3, с. 15]. В отечественном литературоведении термин закрепился после перевода монографии Ж.-М. Кадеи Д. Леерссена [2]. Узбекский текст в русской литературе XX века традиционно анализировался либо как экзотический колорит, либо в контексте дружбы народов; имеющиеся работы [4; 7] не выходят за рамки тематического или сравнительно-типологического подхода. Между тем, именно имагологический аспект позволяет выявить механизмы конструирования образа «восточного другого» и показать его роль в формировании советской и постсоветской идентичности.

Цель настоящего исследования – проанализировать узбекскую имагологему в русской прозе XX века и установить её функции в художественном освоении «чужого» пространства. Задачи: 1) выделить устойчивые стереотипные черты образа Узбекистана; 2) проследить их трансформацию от 1920-х до 1990-х гг.; 3) соотнести литературные конструкторы с идеологическими дискурсами (советский ориентализм, архаизация Востока, деколониальная рефлексия).

Методика. Используется имагологический анализ (выявление устойчивых топосов и этнических маркеров), постколониальная деконструкция (Э. Саид) и интертекстуальная проверка цитатных слоёв. Корпус охватывает тексты А. П. Платонова, В. П. Катаева, Ю. В. Домбровского, В. М. Пескова, а также рецепцию узбекских авторов в русскоязычных журналах 1950–1980-х гг.

Имагологема определяется как «устойчивый комплекс представлений о национальном характере, закреплённый в литературных топосах» [2, с. 37]. В отличие от фольклорного архетипа, имагологема всегда гетеростереотип: она создаётся «чужим» взглядом и служит самоидентификации культуры-

наблюдателя. Советская литература, по справедливому замечанию Е. А. Оболенской, «одновременно колонизировала и романтизировала Восток» [6, с. 88], что делает узбекскую имагологему особенно показательным объектом.

Постсоветский период требует применения инструментария постколониальных исследований (Х. Бхабха, Г. Спивак), рассматривающих проблемы гибридной идентичности, мимикрии, амбивалентности и «высказывания субалтерна» [13, с. 185]. В этом контексте «узбекский текст» превращается в зону столкновения травматических воспоминаний, ностальгии и попыток заново договориться о прошлом и настоящем.

В раннесоветской литературе (1920-1930-е гг.) наследуются дореволюционные ориенталистские клише: Узбекистан предстает как пространство «дикого», сонного, чувственного Востока, который необходимо пробудить и цивилизовать светом революции (образы «старого» города, чайханы, закутанных женщин). Однако эта схема быстро наполняется новым идеологическим содержанием. Узбекистан становится полигоном для социалистической модернизации, что отражается в противопоставлении «старого» и «нового» (феодалная отсталость vs. индустриальный прогресс).

Апогеем и канонической формой советского «узбекского текста» становится историко-революционный эпос. Его ярчайший пример — роман Сергея Бородина «Звезды над Самаркандом» [14, с. 120]. Узбекистан здесь предстает в двойном свете: как земля великого, эпического прошлого (образ Амира Темура) и как арена братского объединения народов для строительства светлого будущего. Культурная специфика (архитектура, обычаи, этнические типы) тщательно эстетизируется, но маркируется как принадлежащая прошлому. Настоящее и будущее — за интернациональным советским сообществом. Узбекский «Другой» в таком дискурсе лишается угрожающей инаковости, он становится «своим иным», младшим, но любимым братом в семье советских народов. Имагеми «древней мудрости», «солнечного гостеприимства» и «верности» становятся доминирующими, вытесняя иные, более сложные черты. В военной прозе, например, в повести Константина Симонова «Дни и ночи» (1943-1944), Узбекистан выполняет функцию тылового мифа [15, с. 150]. Это солнечный, изобильный, мирный край, дающий силы сражающимся. Узбек-солдат (как, например, персонаж Карманова) изображается молчаливым, stoic, абсолютно преданным товарищем, чья жертвенность подтверждает тезис о единстве многонационального народа. Такой образ, при всей его

положительности, остается функциональным и лишенным субъектности, он служит цели консолидации большого «мы».

Деконструкция канона: постсоветские трансформации образа Распад СССР привел к идеологическому коллапсу, который повлек за собой и разрушение прежней системы образов. Узбекистан из близкой, понятной «республики» превратился в самостоятельное, подчас чуждое и далекое зарубежье. «Узбекский текст» 1990-2000-х годов отмечен мотивами утраты, ностальгии, культурного шока и критической рефлексии.

Роман Алексея Иличевского «Перс» (2009) — программный текст новой эпохи [16, с. 45]. Узбекистан здесь — это не объект для описания или покорения, а хаотическая, почти мистическая стихия, лабиринт, в котором теряются рациональные установки героя-пришельца. Ташкент показан не в парадной, советской перспективе, а как организм, живущий по своим непостижимым законам. Традиционные ориенталистские клише (зной, пыль, плотные запахи, иррациональность происходящего) присутствуют, но они лишены прежнего идеологического каркаса и приобретают характер экзистенциального испытания. «Узбекскость» у Иличевского — это сама принципиальная непостижимость Другого, сопротивление любым попыткам систематизации. Это образ, который нельзя присвоить или объяснить, можно лишь пережить как травму или откровение.

Особый интерес представляет книга Григория Явлинского «Узбекский текст» (2019), стоящая на грани публицистики, мемуаров и философского эссе [17, с. 5]. Это попытка осознанного, рефлексивного прощания с имперским и советским прошлым. Автор, русский интеллигент, связанный с Узбекистаном работой, пытается не описывать культуру извне, а вступить с ней в диалог, признавая свою изначальную внешнюю позицию и ограниченность собственного взгляда. Его текст — это саморефлексия имагологического сознания. Явлинский фиксирует собственные стереотипы, анализирует историческую вину и сложность колониальных отношений, пытается увидеть современный, динамичный Узбекистан, а не застывший музейный экспонат. Его работа знаменует переход от монолога к попытке диалога, хотя и с сохранением дистанции.

В романе В. П. Катаева «Время, вперед!» (1932) Самарканд предстаёт «мостом в будущее»: «Среди вековых куполов поднялись бетонные ноги эстакады» [1, т. 3, с. 119]. Узбекский город подчиняется телологическому времени социализма; восточная архаика мобилизуется как фон для демонстрации техногенного

прогресса. Имагологема «древний Восток, вступающий в эпоху социализма» становится важной частью советского ориентализма.

Повесть А. П. Платонова «Джан» (1935) деконструирует советский клише. Узбекская природа описана как «первозданная материя»: «Самарканд стоял в тишине, как будто первый день творения» [5, с. 242]. Архаизация служит не экзотическому зрелищу, а поиску эсхатологического смысла; узбекский текст становится пространством метафизического ожидания. Таким образом, Платонов инвертирует имагологему: Восток предстаёт не «отстающим», а «первым» в истории спасения.

В «Факультете ненужных вещей» (1975) Ташкент – «город-спаситель», но уже с трещиной колониального сознания: «Они привезли сюда свои стихи, как будто колонизаторы – библию» [8, т. 2, с. 63]. Имагологема «райского заточения» сочетает благодарность репрессированных и чувство культурной оккупации. Домбровский впервые вводит в русскую прозу «взгляд снизу» – реакцию узбекского персонажа на «чужое» знание.

В очерке «Среди вечных кочевий» (1988) автор цитирует Марко Поло, но снабжает текст ироническим сносом: «Верьте ему – но не слишком» [9, с. 27]. Имагологема «вечного Востока» деконструируется через гипертекстуальность: узбекский кочевник оказывается не носителем мудрости, а актёром, удовлетворяющим ожидания русского туриста. Так достигается эффект «двойной колонизации»: и Востока, и взгляда на него.

В постсоветской прозе (А. Иванов, М. Шишкин) узбекский образ исчезает либо превращается в «утраченный объект желания». Возвращающийся взгляд узбекских авторов (А. Каххар, Р. Парфи) разворачивает имагологему внутрь: русский герой предстает «другим» в узбекском тексте. Наблюдается диалогическая деконструкция взаимных стереотипов, что соответствует тезису Р. К. Баллабхай о «двусторонней имагологии» [10, с. 41].

Имагологический анализ показывает, что узбекский текст в русской литературе XX века функционировал как «гетеростереотип», служащий разным идеологическим режимам: от утопии «советского Востока» до постмодернистской иронии. Выявлены три доминантные имагологемы:

1. «советский Восток» (1920–1950-е);
2. «рай-лагерь» (1960–1980-е);
3. «внутренняя колония» (1990-е).

Их трансформация отражает колебания между колонизацией и деколонизацией культурного сознания. Перспектива исследования – включение в корпус

визуальных и кинематографических текстов, а также сопоставление с казахской и таджикской имагологемами.

В современной русской словесности «узбекский текст» представлен в творчестве Сухбата Афлатуни (Евгения Абдуллаева), русского писателя, живущего в Узбекистане и воспринимающего «узбекский текст» одновременно извне и «изнутри» - географически, гомопоэтически и культурно.

В «Ташкентском романе», «Поклонении волхвов» и получившем литературную премию «Ясная Поляна» 2025 года романе «Катехон» «узбекский текст» играет очень большую роль и выполняет различные художественные задачи.

Так, в романе «Поклонение волхвов», структурированном очень сложно, виртуозно сплетающем множество сюжетных линий, несколько хронотопов (в том числе внеземную и вневременную реальность) «узбекский текст» органически встроен в более обширный и менее определенный «восточный текст» (включающий также Вифлеем, Китай и Японию). Собственно Узбекистан (советский) возникает как основное место действия (Ташкент и выдуманный Дуркент, где добывают «жемчужный металл» гелиотид, из которого сделаны звезды Рождества) лишь в третьей части романа, но узбекские мотивы появляются намного раньше. Так, умирающий Николай Первый вспоминает, как играл в домашнем спектакле Бухарского принца. Бухарский текст также присутствует как хронотоп несвободы для «беловолосых рабов с севера» (т.е. русских), и, подобно классическому кавказскому тексту, одновременно становится и пространством плена, и влекущей, но потенциально губительной экзотикой.

Во второй части романа (Ташкент начала XX века) узбекский текст присутствует в названиях соответствующих местных реалий: обычаев, терминов родства, блюд узбекской кухни и т.п. К собственно узбекскому языку Афлатуни прибегает редко (так, в третьей части он цитирует поставленного дуркентским театром Шекспира в переводе на узбекский), обычно узбекские слова приводятся в восприятии или произношении русских персонажей. «Пробежал мальчик-водоноша с розой за ухом. Казадупов спросил кружку... поглядел на его розу, похвалил: «Чиройли». Звякнула тия... Казадупов вылил воду: «Из арыков берут, шайтаны, а там зараза на заразе» [11. с. 320]. Иногда в подобных случаях автор дает примечания, например: «Чиройли»-красиво (узб.), «тия» – мелкая монета (узб.).

Сосланный в цент Азии петрашевец Триярский увлекается народной узбекской музыкой и даже пытается понять свою судьбу через несколько ладов-

макамов (макомов): макалат-ущақ, макалат хусейни, макалат раст, макалат рахави. Через много лет обращение к этой традиции (наряду с запрещенным советскими чиновниками колокольным звоном) потомка тезки Николая Триярского, композитора-авангардиста, спасет землю от атаки демонических сил: в провинциальном музыкальном театре Дуркента будет исполнена симфония, которая, наряду с усилиями взлетевших в небо и оставшихся на земле церквей, остановит нападение демонов. Характерно, что рядом с церквями, ставшими боевыми кораблями, летят минареты, и в художественной системе романа, построенного на христианском рождественском мифе, признаются и уважаются иные формы духовности. «Я еще со своими поговорил. – Губы Давлата едва шевелились. – Чтобы тоже помолились. – С суфиями твоими? – Отец Михаил ухмыльнулся. – Думаешь, тоже нужно? – Бог-один.

Отец Михаил похмурился, но богословский спор затевать не стал. – Ладно, – поднялся, – наверху рассортируют» [11. с. 698]

В новом романе «Катехон» (2024) автор также прибегает к усложненной композиции и барочному нагромождению эпох, культур, стран и городов. Главный герой Фархад, узбек с немецкими корнями, родился и вырос в Самарканде, «в хрущёвке напротив Регистана» (куда позже водил экскурсии в качестве гида), учился в Ташкенте, но это – человек мира (у него есть и русское, и немецкое имя, он невероятно умен и эрудирован, возможно, гениален и обладает сверх способностями). Фархад одержим идеей найти Катехон – то, что задержит течение времени и отсрочит конец мира (хотя его обвиняют в противоположном). В сложных размышлениях героя о времени и пространстве отчетливо выделяется и геополитический, и геофилософский аспект: если Ньютон и Эйнштейн открыли пространство и время и их взаимную зависимость, теперь нужен человек, способный соединить их с мозгом. И это должен быть не еврей и не англо-германец, а человек «из места, где времени никогда не было... где оно, даже возникая, съедается пространством... В Туране, Великом Туране. В столице его, Самарканде, который основал царь Турана Афрасиаб» [12. с. 201]. Т.е. время для героя – не историческое, и Центральную Азию он воспринимает как регион с отсутствующим временем (т. е. фактически безвременьем, вечностью).

Интересно, что автор будто избегает слова «узбекский»: он или смотрит «сверху» на узбекский текст как часть «восточного», противопоставляя его западному и сравнивая с ним, либо, напротив, «мельчит» узбекский текст на локальные, например, сравнивая самаркандцев, бухарцев и ташкентцев

как разные «расы» [12. с.17]. Для него практически нет «Узбекистана», а есть Великий Туран, исторический Туркестан, Бухара, Самарканд, менее отчетливо Хива и Ташкент. Узбекский текст для него несводим к перечислению местных реалий или экзотических для русскоязычного читателя деталей и подробностей: это взгляд на Узбекистан с точки зрения вечности, как на центр Евразии, перекресток культур, вечный цветущий сад (в финале высаженный Фархадом сад-катехон сжигают, но не полностью, как и псевдоказнь героя «не до конца»). «Узбекский текст» Сухбата Афлатуни вписан в макроконтекст большой Евразии и большого времени, при этом он не теряет экзотической яркости и культурного своеобразия.

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FEYIL SEMANTIKASIN IZERTLEWDIŇ TEORIYALIQ TIYKARLARI

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Teoriyalıq materiallarga qaraǵanda til biliminde kishi klass taypadaǵı semantikalıq tárepten jaqın bolǵan feyillerdi birlestirip kórsetedi, biraq olardıń hár biri ulıwma mániske qosımsha túrde túrli reńlerdi sáwlelendiredi, yaǵnıy hár qıylı formaların orınlanıwında sintaksisti qóllanıwda dep belgileydi.

Úyrenilip atırǵan kishi klasstıń feyilleri úsh kishi gruppaga bóliniwi múmkin Birinshi gruppaga: olardıń semantikalıq dúzilisine transform, formulate, formalıze, reform, etc belgileri kiredi. Ekinshi gruppaga: "islep shıǵarıw, dóretiwshilik" komponentlerin óz ishine alǵan feyiller kiredi - create, establish, produce, etc.

Úshinshi gruppanı semantikalıq strukturasında- form, shape, fashion, model hám taǵı basqa belgilerin birlestiretugin feyiller quraydı.

Ekinshiden, bul gruppadaǵı feyillerdiń tańlanıwı teoriyalıq qızıǵıwshılıq oyatadı, sebebi feyillerdiń kópshiligi latin hám frantsuz tillerinen alınǵan, shape, frame, set feyillerinen tısqarı.

Saylangan feyiller keń tarqalǵan emes hám ayrıqsha leksik mánis hám usılda qollanıwı menen ajralıp turadı, sebebi olar rásmiy hám ilimiy usıllarǵa xos bolıp tabıladı.

Soǵan qaramastan, sózler anglichan tili normalariga maslawdı hám bul feyillerdiń kishi klası barlıq feyiller ushın ulıwma bolǵan nızamlar boyınsha qalıplesken. Jumıstıń ámeliy ma`nisi onıń nátiyjeleri anglichan tiliniń teoriyalıq grammatikası, kognitiv semantika boyınsha kurslardı oqılıwında, sintaksis hám leksik semantika boyınsha arawlı kurslardı tayarlawda, sonıń menen birge, anglichan tiliniń ámeliy grammatikasin oqıtıwda qollanıwı múmkinligi menen belgilenedi.

Tildiń basqa kognitiv qábiletler hám psixik processler: sezim qılıw, yad, pikirlew hám basqalar menen keń baylanıslılıǵın anıqlaw zárúrshiligi payda boldı. İnsan sanasına sistemalı túrde úyreniwge bolǵan zárúratni ańǵarıw hám onga birden-bir isenimli kirisiw jolin tek til támiyinley alıwın ańǵarıw ilim-pánniń rawajlanıwındaǵı zárúrli jıldam boldı [2, 20].

Kóplegen izertlewshilerdiń (J. Lakoff, Ch R. Filmor tárepinen

Langaker, J.Fokonyer, S. D. Qaraqov, Katnelson, Kubryakov, N. A.Kobrin hám basqalar) tiykarınan tildi pútkil kognitiv iskerliginiń orayı dep tán aladı. Ol jaǵdayda barlıq kognitiv processler hám qábiletler ańlatıladı. Usınıń menen birge, til bul processler hám qábiletlerdi ámelge asırıwdı támiyinleytuǵın arawlı sistema bolıp

tabıladı. Til bizge ashıq sistema retinde kórinedi, onıń qásiyetleri insan tájiriýbesiniń túrli tarawlarına tiyisli bolǵan ulıwma kontseptualizatsiya processleri menen belgilenedi. Solay etip, lingvistik faktlarnı kognitiv kóz-qarastan úyreniwdiń quramalılıǵı sonda, bir tárepden, biz tildi kóplegen kognitiv sistemalardan biri retinde kórip shıǵamız, biraq basqa tárepden, basqa barlıq sistemalarǵa salıstırǵanda tildiń ústinligi anıqlanadı, sebebi tildiń tikkeley funkciyası intellektual iskerliginiń túrli táreplerin sáwlelendiriw hám atap kórsetiw bolıp tabıladı. Intellektual haqqında sóylegende, biz bilim hám aqıldı názerde qamtımız, dúnyanı qabıllaw nátiyjeleri hám adamlardıń predmetli intellektual iskerligi mánisli hám málim bir sistemaǵa keltirilgen maǵlıwmatlar formasında toplandı, olar ongimizda usınıs etiledi hám intellektual (aqlıy) processlerdiń tiykarın quraydı.

Zamanagóy jónelis barlıq túrdegi bilimlerde esapqa alatuǵın eksperimental jantasıw menen baylanıslı [2, 22].

Kognitiv lingvistikada insannıń tildi hám sóylew mexanizmlerin jaratıw hám islewdegi rolin sistemalı xarakteristikalar hám túsindiriw itibar orayında turadı.

Kognitiv pán til belgileri hám kognitsiyanın' óz-ara baylanısıwın úyrenedi "insan sanasınań tilde kórinetuǵın bolıwı [8,34-37]. Solay etip, " kognitsiya" túsiniǵı kognitiv processtıń ózin óz ishine aladı "bilim alıw procesi jáne bul processtıń nátiyjesi "bilim onı da esapqa alıw kerek, bul túsiniq tekǵana maqsetke baǵdarlangan, teoriyalıq bilimlerde, bálki insannıń kúndelik turmısındaǵı dúnyanı ápiwayı, ádetiy (mudamı da sanalı bolmaǵan) ańǵarıwdı, insannıń átirapdaǵı dúnya menen kúndelik baylanısıdaǵı eń ápiwayı tájiriýbeni alıwdı da óz ishine aladı.

Bul maǵlıwmattı, bilimlerde alıw, olardı ózgertiw, eslep qalıw, yaddan alıw, paydalanıw menen baylanıslı hár qanday process.

Demyankov, kognitiv ilim-pánniń tiykarǵı wazıypalarınan biri bul til bilimleri strukturaları informaciyanı qayta islewde qanday qatnasıwı hám qanday sáwlelendiriliwi haqqındaǵı sorawǵa juwap beriw bolıp tabıladı [5,21].

Insannıń kognitiv qábiletleri hám ózlestirgen bilim modelleri tikkeley hám úzliksiz túrde tilde anlatıladı, sol sebepli til strukturaları tiykarǵı intellektual qıyallar haqqında maǵlıwmatlardıń zárúrli dáreǵi esaplanadı.

Bunnan tısqari, "Insannıń aktiv, sanalı -dóretiwsilik iskerligi "aytnadı İnsan tekǵana haqıyqattı ózlestiredi, bálki onı arnawlı bir maqsetler ushın arnawlı bir tárzde aktiv hám maqsetli túrde quraydı. [5, 24].

Joqarıda aytıp ótilgeni sıyaqlı, kognitiv lingvistika - bul til dúnyanı sáwlelendirmeydi, bálki dúnya haqqındaǵı bilimlerde anlatadı.

Til birlikleriniń mánislerin qalıplestiriwde insan aktiv rol oynaydı : insan mánislerdi tayın formada emes, bálki qalıplestiredi.

Sonıń menen birge, ol hár qanday jaǵdaydı súwretlew ushın til quralların tańlawda jáne bul tańlawdıń sebeplerin túsiniwde aktiv rol oynaydı [2, 19].

Ayırım avtorlardıń sózlerine kóre (J.Lakoff, Ch.E. S. Filmornin' sózleri, Qubryakov, N. A. Kobrina N. N. Baltirev hám basqalar), til hádiysesiniń tolıq xarakteristikası kognitiv semantika kóz-qarasınan xarakteristikalanǵan jaǵdaydıń tekǵana obiektiv xarakteristikaların, bálki onı qabıllaw qásiyetlerin, tiyisli bilimler, niyetler, anıq birliklerdiń ajralıp turıwı hám qaraw kózqarasın (perspektivini) tańlaw, itibardı málím zatlarǵa qaratıwdı názerde tutadı.

Solay etip biz sóz etip atırǵan feyiller óz mánis mazmunı, strukturası, forması, gruppalarına qaray hár túrli mánislerde óz sáwleleniwın tabatúǵınlıǵına jáne bir márte isenimimiz kámil boladı.

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BOSHQARUV QARORLARINI QABUL QILISHDA HISSIY INTELLEKTNING ROLI

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ANNOTATSIYA

Hissiy intellekt (EI) boshqaruv samaradorligi va tashkilot muvaffaqiyatiga ta'sir qiluvchi muhim omil sifatida paydo bo'ldi. An'anaviy boshqaruv nazariyalari qaror qabul qilishda ratsionallik va kognitiv intellektga urg'u bergan; ammo, zamonaviy tadqiqotlar shaxslararo munosabatlar va yetakchilik natijalarini shakllantirishda hissiyotlarning ahamiyatini ta'kidlaydi. Ushbu tezis boshqaruv qarorlarini qabul qilishda hissiy intellektning rolini o'rganadi, menejerlarning his-tuyg'ularni idrok etish, tushunish, tartibga solish va ulardan foydalanish qobiliyati ularning qarorlarining sifati va samaradorligiga qanday ta'sir qilishiga e'tibor qaratadi. Tavsifli va analitik tadqiqot yondashuvidan foydalangan holda, tadqiqot hissiy intellekt va boshqaruv qarorlarini qabul qilish o'rtasidagi bog'liqlikni aniqlash uchun mavjud adabiyotlar va empirik topilmalarni o'rganadi. Natijalar shuni ko'rsatadiki, hissiy intellekti yaxshi rivojlangan boshqaruvchilar muammolarni hal qilishda yaxshiroq ko'nikmalarga ega, nizolarni hal qilishda yaxshilanishlarga ega, axloqiy hukm chiqarishda va tashkilot faoliyatining yaxshilanishida ishtirok etadilar.

Kalit so'zlar: hissiy intellekt, boshqaruv qarorlarini qabul qilish, boshqaruv samaradorligi, tashkiliy samaradorlik.

KIRISH

Qaror qabul qilish boshqaruvning eng asosiy vazifalaridan biridir. Menejerlardan xodimlar, tashkilot resurslari va uzoq muddatli strategik natijalarga ta'sir qiluvchi qarorlar qabul qilish talab etiladi. An'anaga ko'ra, boshqaruv qarorlarini qabul qilish ma'lumotlar, tahlil va kognitiv intellektga asoslangan oqilona va mantiqiy jarayon sifatida qaralgan. Biroq, zamonaviy tashkilotlar murakkab, dinamik va hissiy jihatdan yuklangan muhitda ishlaydi, bu yerda qaror qabul qilishning sof oqilona modellari yetarli emas.

O'zida va boshqalarda his-tuyg'ularni samarali aniqlash, tushunish, boshqarish va ulardan foydalanish qobiliyati sifatida ta'riflangan hissiy intellekt (EI) boshqaruv muvaffaqiyatining asosiy omili sifatida tanildi. Yuqori hissiy intellektga ega rahbarlar stressni boshqarish, shaxslararo munosabatlarni boshqarish, vazifa bilan bog'liq va inson omillarini hisobga olgan holda muvozanatli qarorlar qabul qilish uchun

yaxshiroq ta'minlangan.

Ushbu tezisda ko'rib chiqilgan **tadqiqot muammosi** hissiy intellektning boshqaruv qarorlarini qabul qilish va qarorlar sifatiga qanday ta'sir qilishini yetarlicha tushunmaslikdir. Tadqiqotlar hissiy intellekt va yetakchilik samaradorligi o'rtasida ijobiy bog'liqlikni ko'rsatgan bo'lsada, hissiy intellektning axloqiy mulohaza yuritish, shaxslararo qarorlar qabul qilish va umumiy boshqaruv faoliyatiga qanday hissa qo'shishi borasida noaniqliklar saqlanib qolmoqda. Bu bo'shliq tashkilotlarning samarali va barqaror qarorlar qabul qilishga qodir hissiy jihatdan aqlli menejerlarni tizimli ravishda rivojlantirish qobiliyatini cheklaydi. Shuning uchun, ushbu tadqiqot boshqaruv qarorlarini qabul qilishda hissiy intellektning rolini o'rganish va uning boshqaruv samaradorligi va tashkilot muvaffaqiyatini oshirishdagi ahamiyatini ta'kidlash orqali muammoni hal qilishga qaratilgan.

Tadqiqotning maqsadi hissiy intellektning boshqaruv qarorlarini qabul qilish jarayonlari va natijalariga qanday ta'sir qilishini o'rganishdir. Tadqiqot hissiy intellekt menejerlarning tashkiliy sharoitlarda samarali, axloqiy va xabardor qarorlar qabul qilish qobiliyatini qay darajada oshirishini tushunishga qaratilgan.

Tadqiqot vazifalari:

- boshqaruv kontekstida hissiy intellekt tushunchasini o'rganish;
- EI va boshqaruv qarorlarini qabul qilish o'rtasidagi bog'liqlikni tahlil qilish;
- EI boshqaruv qarorlarining axloqiy va shaxslararo jihatlariga qanday hissa qo'shishini o'rganish.

Adabiyotlar sharhi. EI tushunchasi Goleman (1995) tomonidan ommalashtirilgan bo'lib, u o'zini anglash, o'zini o'zi boshqarish, motivatsiya, empatiya va ijtimoiy ko'nikmalarni asosiy komponentlari sifatida aniqlagan.

Mayer va Salovey (1997) o'zida va boshqalarda his-tuyg'ularni idrok etish, tushunish va boshqarish qobiliyati sifatida EI ni yanada ko'proq kontseptsiyalashtirgan.

Bir nechta tadqiqotlar hissiy intellekt va boshqaruv samaradorligi o'rtasida ijobiy bog'liqlikni o'rnatdi. Tadqiqotlar shuni ko'rsatadiki, yuqori EIga ega menejerlar ish joyidagi stressni boshqarish, nizolarni hal qilish va hamkorlikni rivojlantirishga ko'proq qodir. Jorj (2000) tadqiqotiga ko'ra, hissiy intellekt menejerlarga hissiy ma'lumotlarni kognitiv jarayonlar bilan birlashtirish imkonini berish orqali qaror qabul qilishni yaxshilaydi.

Bundan tashqari, hissiy intellekt axloqiy qarorlar qabul qilishda muhim rol o'ynaydi. Hissiy jihatdan aqlli menejerlar ko'proq hamdard va ijtimoiy xabardor bo'lib, bu ularga o'z qarorlarining manfaatdor tomonlarga ta'sirini ko'rib chiqishga imkon beradi. Tadqiqotlar shuningdek, EI transformatsion yetakchilikka, xodimlarning qoniqishiga

va tashkiliy natijalarni yaxshilashga hissa qo'shishini ko'rsatadi. Umuman olganda, adabiyotlar hissiy intellekt boshqaruv qarorlarini qabul qilish sifatiga ta'sir qiluvchi muhim omil ekanligi haqidagi fikrni qo'llab-quvvatlaydi.

Tadqiqot metodologiyasi. Metodologiya hissiy intellekt va boshqaruv qarorlarini qabul qilish bilan bog'liq naqshlar, munosabatlar va asosiy tushunchalarni aniqlash uchun oldingi tadqiqotlarni sintez qilishga qaratilgan. Buning uchun tadqiqot ikkilamchi ma'lumotlarga asoslangan tavsifiy va analitik tadqiqot dizaynini qo'llaydi. Ma'lumotlar akademik jurnallar, kitoblar va tadqiqot maqolalaridan to'plangan.

Tadqiqot natijalari. Mavjud nazariy modellar va empirik tadqiqotlar tahlili hissiy intellekt va boshqaruv qarorlarini qabul qilish o'rtasidagi izchil va mazmunli bog'liqlikni ko'rsatadi. Natijalar hissiy intellektning asosiy o'lchamlari va ularning qaror qabul qilish jarayonlari va natijalariga ta'siri bo'yicha tuzilgan.

Hissiy intellekt va qaror qabul qilish sifati. Tadqiqotlar shuni ko'rsatadiki, hissiy intellekt darajasi yuqori bo'lgan menejerlar ko'proq muvozanatli va samarali qarorlar qabul qilishga moyildirlar. Hissiy xabardorlik boshqaruvchilarga hukmni buzishi mumkin bo'lgan stress, xavotir yoki bosim kabi hissiy ta'sirlarni aniqlash imkonini beradi. Boshqaruvchilar impulsiv reaksiya ko'rsatish o'rniga, o'zini ko'proq nazorat qilishni namoyish etadilar, bu ularga alternatalarni diqqat bilan baholash va tashkiliy maqsadlarga mos keladigan yechimlarni tanlash imkonini beradi. Natijada, qarorlar sifati, ayniqsa murakkab yoki noaniq vaziyatlarda yaxshilanadi.

Hissiy intellekt va muammolarni hal qilish qobiliyati. EI boshqaruv muammolarini hal qilish ko'nikmalarini oshiradi. O'z his-tuyg'ularini boshqara olish qiyinchiliklarga duch kelish ehtimolini kamaytiradi va qaror qabul qilish jarayonlarida diqqatni jamlashni oshiradi. Ushbu tadqiqotda ko'rib chiqilgan empirik dalillar shuni ko'rsatadiki, EI rivojlangan boshqaruvchilar turli nuqtai nazarlarga ochiqroq, bu esa ijodiy va moslashuvchan muammolarni hal qilishni qo'llab-quvvatlaydi. Bu qobiliyat ularga tashkiliy muammolarning ham texnik, ham insoniy jihatlarini samaraliroq hal qilish imkonini beradi.

Hissiy intellekt va axloqiy qarorlar qabul qilish. Ushbu tadqiqotning muhim topilmasi hissiy intellekt va axloqiy hukm o'rtasidagi bog'liqlikdir. Yuqori hissiy intellekti mavjud boshqaruvchilar ko'proq hamdardlik va ijtimoiy xabardorlikni namoyon etadilar, bu ularga o'z qarorlarining xodimlar, manfaatdor tomonlar va tashkiliy madaniyatga oqibatlarini ko'rib chiqish imkonini beradi. Bunda boshqaruvchilar axloqiy mulohaza yuritishga ko'proq moyil bo'ladilar, faqat shaxsiy manfaatlarga asoslangan qarorlardan qochishadi va tashkiliy qadriyatlarni qo'llab-quvvatlaydilar. Shuning uchun EI mas'uliyatli qarorlar qabul qilishni qo'llab-quvvatlaydi va axloqiy

yetakchilik amaliyotiga hissa qo'shadi.

Shaxslararo va nizolarga bog'liq qarorlarda hissiy intellekt. Hissiy intellekt shaxslararo qarorlar qabul qilishda muhim rol o'ynaydi. Kuchli hissiy intellektga ega menejerlar nizolarni boshqarish, yechimlarni muzokara qilish va ish joyidagi munosabatlarni saqlaydigan qarorlar qabul qilish uchun yaxshiroq ta'minlangan. Boshqalarning his-tuyg'ularini tushunish orqali menejerlar qarorlarga munosabatni oldindan bilishlari va tanlovlarni samaraliroq yetkazishlari mumkin. Bu qarshilikni kamaytiradi, hamkorlikni kuchaytiradi va ijobiy tashkiliy muhitni qo'llab-quvvatlaydi.

Hissiy jihatdan qaror qabul qilishning tashkiliy natijalari. Yaxshilangan muloqot, nizolarning kamayishi, xodimlarning qoniqish darajasining oshishi va rahbariyatga bo'lgan ishonchning ortishi ko'pincha emotsional jihatdan aqlli boshqaruv xatti-harakatlari bilan bog'liq. Bu natijalar qarorlarni samaraliroq amalga oshirishni qo'llab-quvvatlaydi va uzoq muddatli tashkiliy barqarorlik va muvaffaqiyatga hissa qo'shadi. Umuman olganda, natijalar EI qaror qabul qilish samaradorligiga bevosita ta'sir qiluvchi muhim boshqaruv qobiliyati ekanligini tasdiqlaydi. Emotsional xabardorlik, o'zini o'zi boshqarish, empatiya va ijtimoiy ko'nikmalarni namoyish etadigan boshqaruvchilar xabardor, axloqiy va barqaror qarorlar qabul qilishga ko'proq qodir. Tadqiqot natijalari shuni ta'kidlaydiki, emotsional intellekt boshqaruv qarorlarini qabul qilish jarayonlarida emotsional va ratsional mulohazalarni birlashtirish orqali kognitiv intellektni to'ldiradi.

Xulosa. Ushbu tezisda boshqaruv qarorlarini qabul qilishda hissiy intellektning roli va uning boshqaruv samaradorligi va tashkilot muvaffaqiyatiga qo'shgan hissasi o'rganildi. Natijalar shuni ko'rsatadiki, hissiy intellekt qo'shimcha boshqaruv xususiyati emas, balki boshqaruvchi vaziyatlarni qanday qabul qilishini, alternativalarini baholashini va tashkilot sharoitida qarorlarni amalga oshirishini shakllantiruvchi asosiy kompetentsiyadir.

Tahlil shuni tasdiqlaydiki, EI menejerlarga bosim ostida xotirjamlikni saqlashga, muammolarni puxta o'ylangan holda hal qilishga va impulsiv yoki tarafkash qarorlardan qochishga imkon beradi. Natijada, boshqaruv qarorlari yanada muvozanatli, kontekstga sezgir bo'lib, ham tashkilot maqsadlari, ham insoniy mulohazalar bilan moslashadi.

Tadqiqot axloqiy va shaxslararo qarorlar qabul qilishda hissiy intellektning ahamiyatini ta'kidlaydi. EI yaxshi rivojlanganligi axloqiy hukmni qo'llab-quvvatlaydigan va tashkilotlar ichidagi ishonchni mustahkamlaydigan ko'proq hamdardlik, adolat va ijtimoiy mas'uliyatni namoyish etadi. Nizolarni boshqarish va qarorlarni samarali ravishda yetkazish qobiliyati ish joyidagi munosabatlarni

sog'lomlashtirishga va xodimlar o'rtasidagi hamkorlikni yaxshilashga hissa qo'shadi. Menejerlar orasida EI ni rivojlantirishga sarmoya kiritadigan tashkilotlar barqaror qaror qabul qilish, axloqiy yetakchilik va uzoq muddatli tashkiliy muvaffaqiyatga erishish ehtimoli ko'proq. Kelajakdagi empirik tadqiqotlar turli sohalar va madaniy kontekstlarda EI ning rolini o'rganish orqali ushbu topilmalarga asoslanadi.

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KREATIV FIKRLASH TUSHUNCHASINING PEDAGOGIK-PSIXOLOGIK TALQINI

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Annotatsiya: Ushbu maqolada kreativ fikrlash tushunchasining pedagogik va psixologik talqinlari tahlil qilinadi. Maqolada kreativ fikrlashning nazariy asoslari, uning ta'lim jarayonidagi ahamiyati hamda shaxsning ijodiy salohiyatini rivojlantirishdagi roli yoritilgan. Pedagogik nuqtai nazardan, kreativ fikrlash o'quvchilarning mustaqil fikrlash, muammolarni innovatsion usulda hal qilish va yangicha g'oyalarni shakllantirish qobiliyatini oshirishga xizmat qiladi. Psixologik talqin esa insonning kognitiv jarayonlari, fantaziya va tasavvur faoliyati bilan bog'liq jihatlarni ochib beradi. Maqola kreativ fikrlashni rivojlantirish metodlari va pedagogik yondashuvlarni ham muhokama qiladi.

Kalit so'zlar: Kreativ fikrlash, ijodiy salohiyat, pedagogik talqin, psixologik talqin, muammolarni hal qilish, innovatsion yondashuvlar.

Jahonda ta'lim barqaror taraqqiyotni ta'minlaydigan asosiy omil sifatida e'tirof etilib, xalqaro tashkilotlar hamda dunyoning aksariyat mamlakatlari tomonidan 2030-yilgacha belgilangan yangi ta'lim kontsepsiyasida "o'qitish sifatini baholash jarayoni va vositalarini takomillashtirish, erishilgan natijalarni aniqlash imkonini beruvchi mexanizmlarni amaliyotga joriy qilish"¹ dolzarb vazifa sifatida etib belgilandi. Davlat va jamiyat taraqqiyotining harakatlantiruvchi kuchi sifatida qaralayotgan ta'lim mazmunida o'quvchilarning kreativ ko'nikmalarini rivojlantirishning innovatsion texnologiyalari orqali ta'lim samaradorligini ta'minlashga alohida e'tibor qaratilmoqda. Bu, o'z navbatida, boshlang'ich sinf o'quvchilari kreativ fikrlashini barvaqt rivojlantirish; boshlang'ich ta'limning shaxs kamolotini ta'minlovchilik imkoniyatlari bilan o'quvchilarda kreativ fikrlashini ijodiy topshiriqlar vositasida rivojlantirishga xizmat qiladigan metodikani ishlab chiqish; darslarda maqsadga yo'naltirilgan og'zaki savol va mashqlardan o'quvchi shaxsini rivojlantirishda

¹ 2019-yil 29-apreldagi PF-5712-son "O'zbekiston Respublikasi xalq ta'limni tizimini 2030-yilgacha rivojlantirish konsepsiyasini tasdiqlash to'g'risida".

foydalanish yo'llari, metodlarini takomillashtirish hamda joriy etish metodikasini ishlab chiqish zaruriyatining yuzaga kelishiga asos bo'lmoqda.

Respublikamizda o'quvchilarning kreativ fikrlashini rivojlantirish bo'yicha amalga oshirilayotgan ilmiy izlanishlarda o'quv-tarbiya jarayoni natijaviyligiga alohida e'tibor qaratilib, takomillashtirilgan metodik tizimni ishlab chiqish zarurligiga urg'u berilmoqda. Ushbu tadqiqotlarda boshlang'ich sinf o'quvchilari kreativ fikrlashini rivojlantirish, shaxsga yo'naltirilgan ta'lim texnologiyalari asosida takomillashgan metodik tizimni yaratishga oid ilmiy jihatdan asoslangan takliflar, unga ta'sir etuvchi omillarni aniqlash, o'quvchilarda kreativ fikrlash ko'nikmalarini hosil qilish, muloqot va o'z-o'zini rivojlantirish kompetentsiyalarini shakllantirishga ustuvor ahamiyat qaratilgan. Kreativ fikrlaydigan, iqtidorli yoshlarni ijodkorlik faoliyatiga jalb etish, ijtimoiy va shaxsiy faolligi kompetentsiyalarni shakllantirish va rivojlantirish texnologiyalarini, innovatsion yondashuvni tizimli tarzda tashkil etishning metodologik asoslari yuzasidan olib borilayotgan ilmiy izlanishlar o'quvchilarning kreativ ko'nikmalarini rivojlantirish samaradorligini oshirishning didaktik ta'minotini takomillashtirishda muhim ahamiyat kasb etmoqda.

Bugungi talab o'quvchilarning kreativ fikrlash, atrofdagi voqelikka ongli munosabatda bo'lish, daxldorlik va ijtimoiy faollik kabi sifatlarini, tafakkurini rivojlantirish, yuksak ma'naviyatli barkamol shaxsni kamol toptirish sog'lom avlodni voyaga yetkazishning muhim omili sifatida boshlang'ich ta'lim tizimidan boshlab ilg'or pedagogik va innovatsion texnologiyalarini keng miqyosda qo'llash zaruratini yuzaga keltirdi. "O'zbekiston Respublikasini yanada rivojlantirish bo'yicha Harakatlar strategiyasi"da – "Jismonan sog'lom, ruhan va aqlan rivojlangan, mustaqil fikrlaydigan, Vatanga sodiq, qat'iy hayotiy nuqtai nazarga ega yoshlarni tarbiyalash, demokratik islohotlarni chuqurlashtirish va fuqarolik jamiyatini rivojlantirish jarayonida ularning ijtimoiy faolligini oshirish"² masalasiga ustuvorlik berilgan. Mazkur farmon ta'lim tizimida o'qitish sifatini takomillashtirishni taqozo etadi va natijada boshlang'ich ta'limda o'quvchilarning kreativ qobiliyatlarini rivojlantirish strategiyalarini takomillashtirishning metodik imkoniyatlari yanada kengayadi.

Pedagogika va psixologiya fanlari doirasida shaxs kreativligini shakllantirish va rivojlantirish muammosi har tomonlama o'rganilib, zamonaviy sharoitda pedagogning kreativlik sifatlariga ega bo'lishni taqozo etmoqda.

² O'zbekiston Respublikasi Prezidentining 2017 yil 7 fevraldagi "O'zbekiston Respublikasini yanada rivojlantirish bo'yicha Harakatlar strategiyasi to'g'risida"gi PF-4947-sonli Farmoni. –O'zbekiston Respublikasi Qonun hujjati, 2017 yil, 6-son, 70-modda.

Dunyo ilm-fanida kreativlik masalasi har bir davrda olimlar diqqatini o'ziga tortib kelgan va shaxs kreativligini shakllantirish va rivojlantirish muammosi har tomonlama o'rganilib, zamonaviy ta'lim o'quvchining kreativlik ko'nikmalariga ega bo'lishni taqozo etmoqda.

Kreativlik tushunchasi bo'yicha ilmiy adabiyotlarda turli yondashuvlar mavjud bo'lib, ularning har biri mazkur hodisaning muhim jihatlarini yoritadi. Leksik jihatdan, "kreativlik" atamasi lotincha creare - "yaratmoq" va inglizcha create - "yaratish", creative - "ijodkor" so'zlaridan kelib chiqqan. Ilmiy talqinda kreativlik bu shaxsning yangi g'oyalarni ishlab chiqishga ichki tayyorligi, noodatiy fikrlash qobiliyati hamda mustaqil omil sifatida iqtidorlilik tuzilmasining tarkibiy qismi hisoblanadi. Bizning fikrimizcha, bunday izoh kreativlikni nafaqat yangilik yarata olish imkoniyati, balki shaxsning intellektual salohiyati, motivatsiyasi va tafakkur moslashuvchanligining uyg'un ifodasi sifatida ham tushunishga imkon beradi³.

"Kreativlik" atamasi 1950-yilda J.Gilford tomonidan fanga kiritilgan bo'lib, hozirgi vaqtda "ijodkorlik" va "kreativlik" tushunchalarini o'zaro bog'lashda ba'zi noaniqliklar mavjud. O'zbekiston Milliy ensiklopediyasida "ijod – yaratish, kashf etish; vujudga keltirish ma'nolarini anglatib, badiiy, ilmiy, san'atga oid asar yoki moddiy boylik yaratish, vujudga keltirish; yaratuvchilik faoliyati hamda yaratuvchilik faoliyati mahsuli, samarasi" ekanligi qayd etib o'tilgan⁴.

"Ma'naviyat: asosiy tushunchalar" izohli lug'atida esa, mazkur tushunchaga quyidagicha ta'rif berilgan: "Ijod (arab. yaratish, kashf etish, vujudga keltirish) – badiiy, ilmiy, amaliy asar yoki moddiy boylikni yaratish, vujudga keltirish. Ijod mohiyatan yaratuvchanlik faoliyati bo'lib, inson ma'naviyatining amaldagi ko'rinishini ifoda etadi"⁵.

D.P. Gilford o'zining tadqiqotida kreativlik va intellektni birinchi marotaba taqqosladi. U intellekt strukturasi modelini yaratishda tafakkurni konvergent va divergent turiga ajratdi. Konvergent tafakkur - (lotincha convergere-"bir yo'ldan") tafakkur formasi bo'lib, muammoning bir qancha yechimlaridan faqat yagona to'g'risini tanlashdir.

³ Ne'matov B.S. Boshlang'ich sinf o'qituvchilarida kreativ salohiyatni rivojlantirishning pedagogik xususiyatlari. Oriental Renaissance: Innovative, educational, natural and social sciences. Scientific Journal Impact Factor. 2021. 901-b.

⁴ "O'zbekiston Milliy Ensiklopediyasi" davlat ilmiy nashriyoti. - Toshkent: 2001-2006 y.

⁵ "Ma'naviyat: asosiy tushunchalar" izohli lug'ati, 2010.

Konvergent tafakkur asosida intellekt yotadi, shuning uchun intellektual tafakkur deb ham ataladi. Divergent tafakkur - (lotincha divergere-“bo‘linish”) ijodiy tafakkur metodlaridan biri bo‘lib, berilgan bir muammoning bir qancha yechimlarini topish, shuning bilan bir qatorda, divergent tafakkur “bir vaqtning o‘zida turli yo‘nalishlarga izlanish, ya’ni bir muammoga bir nechta to‘g‘ri javoblar borligini va original ijodiy g‘oyalarning tug‘ilishiga xizmat qiladi. Divergent tafakkurning negizini esa kreativlik tashkil etadi. Kreativlik tafakkurning qay darajada shakllanganiga ham bog‘liq bo‘lib, shaxs tafakkuri qanchalik yaxshi rivojlangan bo‘lsa, kreativ fikrlashi ham shunchalik rivojlangan bo‘ladi.

Ellis Paul Torrance (1915–2003) kreativlikni ilmiy asosda o‘lchash uchun o‘zining mashhur bo‘lgan Torrance Tests of Creative Thinking (TTCT) testini ishlab chiqdi. U kreativlikni ta’limda rivojlantirish va har bir insonda mavjudligini isbotladi. Torrancening “Guiding Creative Talent” (Ijodiy iste’dodni yo‘naltirish) va “The Search for Satori and Creativity” (Ijodkorlik va ilhom izlash) asarlarida kreativlik va ijodkorlikning kuchli tomonlarni o‘lchashga mo‘ljallangan oltita kichik mezonlari xususida fikr yuritadi. Mazkur test shaxs kreativligi va uning darajasini ijodiy faoliyatni tashkil etishdagi faollik, tezkor fikrlash, o‘ziga xos (original) lik va takomillashganlik kabi mezonlar bo‘yicha baholash imkoniyatini yaratadi. Tavsiya etilgan savollarga beriladigan javoblar aynan mana shu mezonni qanoqlantirishi lozim. Torrens fikriga ko‘ra, o‘quvchilarning ijodkorlikka oid testlar bo‘yicha qayd etgan ko‘rsatkichlari umumlashtirilishi mumkin va bir bilim sohasiga tegishli ko‘rsatkich boshqasiga o‘tkazilishi mumkin. Shunga qaramasdan, sohada olib borilgan ko‘pgina tadqiqotlar mazkur farazga zid ko‘rinadi. Ularda aytilishicha, kreativlik va ijodkorlik ko‘nikmasining o‘zlashtirilishi uchun kerakli ko‘nikmalar, o‘ziga xosliklar bilim sohasiga tegishli, shuning uchun ular bilim sohasidan farqlanadi yoki ikkala yondashuv jihatlarini birlashtirib kreativlik modellarini taqdim etadi.

Mihaly Csikszentmihalyi (1934–2021) ijodiy jarayonni tushunishda o‘zining “Flow” (oqim) nazariyasini ishlab chiqdi. U ijodkorlik insonning o‘z ishiga to‘liq sho‘ng‘ishi va bu jarayondan zavq olish jarayonida maksimal samaradorlikka erishishini tushuntirgan. Mihaly Csikszentmihalyi “Creativity: Flow and the Psychology of Discovery and Invention” (Kreativlik: Oqim va kashfiyot psixologiyasi) asarida “Ushbu tadqiqotning olimlar uchun foydasi aniq bo‘lsa-da, ilmiy va so‘zlashuv nutqining bu o‘ylantiruvchi aralashmasi qiziquvchan keng o‘quvchilarni ham yoritadi”. Ijod - bu hayotni yashashga arziydigan lahzalarni suratga olishdir. Afsonaviy psixolog Mihali Csikszentmihalyi bu bilimlardan foydalanish uchun molbertdagi rassomning hayajonlanishini yoki laboratoriyadagi olimning hayajoniga nima olib

kelishini ochib beradi. Uning izlanishlari ijodiy odamlarni o'rganishga qaratilgan. "Men odamlar qanday qilib ijodkor bo'lib qolishlari haqida sifatli tadqiqot olib boraman. *Haqiqiy ijodiy yutuq esa deyarli hech qachon to'satdan idrok etish, zulmatda yonib-o'chadigan lampochkaning natijasi emas, balki ko'p yillik mashaqqatli mehnatdan keyin keladi. Shuning uchun ijodkorlik odamlarning boshlarida emas, balki insonning fikrlari va ijtimoiy-madaniy kontekst o'rtasidagi o'zaro ta'sirda sodir bo'ladi. Bu individual emas, balki tizimli hodisa*" – deb hisoblaydi Csikszentmihalyi. Uning kuzatishlarida ijodiy jarayon an'anaviy ravishda besh bosqichdan iborat deb ta'riflanadi. Birinchisi, qiziqarli va qiziqish uyg'otadigan muammoli masalalar to'plamiga ongli ravishda yoki yo'q bo'lib, tayyorgarlik davri. Ijodiy jarayonning ikkinchi bosqichi - bu inkubatsiya davri bo'lib, bu davrda g'oyalar ong ostonasidan pastroqda aylanadi. Aynan shu vaqt ichida g'ayrioddiy aloqalar paydo bo'lishi mumkin. Ijodiy jarayonning uchinchi komponenti - bu ba'zan "Aha!", "Qoyil!", "Urta!" deb ataladigan tushuncha bo'lib, Arximedning "Evrika!" deb qichqirgandagi hayajonli holatiga qiyoslasak bo'ladi. To'rtinchi komponent - bu baholash, bunda inson tushunchaning qimmatli yoki qimmat emasligini hal qilishi kerak. Jarayonning beshinchi va oxirgi komponenti takomillashganlikdir. Csikszentmihalyi "eng yaxshi g'oyalar dush qabul qilganda, ta'tilda, yugurishda, mashina haydashda sodir bo'ladi"- deb hisoblaydi. **Ya'ni inson** atrofidagi narsalardan qanchalik ko'p zavq olsa, undagi kreativ ko'nikmalar shu qadar faolroq kuzatiladi.

Kreativlik (ijodiylik) - qandaydir yangi, betakror narsa yarata olish layoqati, badiiy shakl yaratish, fikrlash, g'oya va yechimga olib keluvchi aqliy jarayon.

Ko'plab ilmiy konsepsiyalarda qobiliyat kreativlikni bildiradigan ijodiy imkoniyatlar bilan bog'lanadi. Kreativlik – fikrlash, muloqot va boshqa faoliyat turlarida, noaniqlik, qarama-qarshiliklarda namoyon bo'ladi. Kreativlikning asosiy yo'nalishlari quyidagilar: kreativlik – mahsulot, jarayon, qobiliyat, shaxsning fazilati. Kreativlikka, umuman ijodkorlikka bo'lgan nuqtayi nazarlarning xilma-xilligi inson borlig'ida namoyon bo'ladigan keng ko'lamli hodisalarni aks ettiradi.

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“IONKIN SHARTLI BIR O‘LCHAMLI ISSIQLIK TARQALISH INTEGRO-DIFFERENSIAL TENGLAMADAN YADRONI ANIQLASHNING TESKARI MASALASI”

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Annotatsiya

Ushbu maqolada Ionkin shartli bir o‘lchamli issiqlik tarqalish integro-differensial tenglamasi uchun yadroni aniqlashga oid teskari masala tadqiq etilgan. Mazkur masala issiqlik jarayonlarini tavsiflovchi modellarni aniqlashtirish va muhitning fizik xossalarini qayta tiklashda muhim ahamiyat kasb etadi. Tadqiqotda teskari masalaning qo‘yilishi, uning korrektilik masalalari, mavjudlik va yagonalik shartlari tahlil qilinadi. Ionkin shartining o‘ziga xos xususiyatlari hisobga olinib, masalani yechish uchun integral tenglamalar nazariyasiga asoslangan yondashuv taklif etiladi. Olingan natijalar issiqlik almashinuvi jarayonlarini matematik modellashtirishda hamda muhandislik va texnologik masalalarda qo‘llanishi mumkin.

Kalit so‘zlar: teskari masala, issiqlik tarqalishi, integro-differensial tenglama, Ionkin sharti, yadro funksiyasi.

Аннотация

В статье исследуется обратная задача определения ядра для одномерного интегро-дифференциального уравнения теплопроводности с условием Ионкина. Данная задача имеет важное значение при восстановлении физических характеристик среды и уточнении математических моделей тепловых процессов. Рассматриваются постановка обратной задачи, вопросы корректности, а также условия существования и единственности решения. С учетом специфики условия Ионкина предложен подход, основанный на теории интегральных уравнений. Полученные результаты могут быть использованы при математическом моделировании процессов теплопереноса и в прикладных инженерных задачах.

Ключевые слова: обратная задача, теплопроводность, интегро-дифференциальное уравнение, условие Ионкина, ядро.

Abstract

This paper investigates an inverse problem of determining the kernel for a one-dimensional integro-differential heat conduction equation with the Ionkin boundary

condition. The problem is significant for reconstructing physical properties of the medium and refining mathematical models of heat transfer processes. The formulation of the inverse problem, issues of well-posedness, and conditions for existence and uniqueness of solutions are analyzed. Taking into account the specific features of the Ionkin condition, an approach based on the theory of integral equations is proposed. The obtained results can be applied in mathematical modeling of heat transfer processes and various engineering applications.

Keywords: inverse problem, heat conduction, integro-differential equation, Ionkin condition, kernel.

KIRISH

Zamonaviy matematik fizika va amaliy matematikaning dolzarb yo‘nalishlaridan biri teskari masalalarni o‘rganish hisoblanadi. Teskari masalalar, odatda, kuzatiladigan natijalar asosida noma‘lum parametrlar yoki funksiyalarni aniqlashga qaratilgan bo‘lib, ular ko‘plab amaliy sohalarda muhim ahamiyat kasb etadi. Issiqlik tarqalish jarayonlarini modellashtirishda uchraydigan teskari masalalar muhitning issiqlik xossalarini aniqlash, texnologik jarayonlarni nazorat qilish va diagnostika masalalarida keng qo‘llaniladi.

Bir o‘lchamli issiqlik tarqalish integro-differensial tenglamalari xotira efektiga ega bo‘lgan jarayonlarni tavsiflashda muhim rol o‘ynaydi. Bunday tenglamalarda integral hadning mavjudligi jarayonning oldingi holatlari joriy holatga ta’sir ko‘rsatishini ifodalaydi. Mazkur tenglamalar uchun qo‘yilgan chegaraviy shartlar orasida Ionkin sharti o‘ziga xosligi bilan ajralib turadi.

Ionkin shartli masalalar klassik chegaraviy masalalardan farqli ravishda yechimning butun chegaradagi integral xossalariga bog‘liq bo‘lib, ularni tahlil qilish qo‘shimcha matematik murakkabliklarni keltirib chiqaradi. Shu sababli, Ionkin sharti ostida teskari masalalarni o‘rganish nazariy va amaliy jihatdan dolzarb hisoblanadi.

Mazkur maqolada Ionkin shartli bir o‘lchamli issiqlik tarqalish integro-differensial tenglamadan yadroni aniqlashga oid teskari masala o‘rganiladi. Tadqiqotning asosiy maqsadi masalaning matematik qo‘yilishini asoslash, yechimning mavjudligi va yagonaligini tahlil qilish hamda yechish usullarini ko‘rsatishdan iborat.

Asosiy qism

Bir o‘lchamli issiqlik tarqalish integro-differensial tenglamalari issiqlik oqimi vaqt davomida nafaqat joriy holatga, balki avvalgi holatlarga ham bog‘liq bo‘lgan jarayonlarni modellashtirish imkonini beradi. Bunday tenglamalarda yadro funksiyasi

muhitning xotira xossalari ifodalaydi va uning aniq ko‘rinishi ko‘pincha oldindan noma’lum bo‘ladi.

To‘g‘ri masalada yadro ma’lum bo‘lib, tenglama yechimi aniqlansa, teskari masalada aksincha, yechimning qo‘shimcha ma’lumotlari asosida yadro funksiyasini tiklash talab etiladi. Bu esa masalaning noaniqligi va beqarorligi bilan bog‘liq bo‘lib, teskari masalalar odatda noto‘g‘ri qo‘yilgan masalalar sinfiga kiradi.

Ionkin sharti ostida qo‘yilgan masalalarda chegaraviy shart integral ko‘rinishda ifodalanadi. Bu holat spektral usullarni bevosita qo‘llashni murakkablashtiradi va masalani yechishda maxsus yondashuvlarni talab qiladi. Tadqiqotda Ionkin sharti hisobga olinib, masalani ekvivalent integral tenglama ko‘rinishiga keltirish imkoniyati ko‘rib chiqiladi.

Yadro funksiyasini aniqlash masalasi uchun qo‘shimcha ma’lumot sifatida, odatda, ma’lum vaqt momentlarida yechimning qiymatlari yoki integral xossalari beriladi. Ushbu ma’lumotlar asosida yadro uchun integral tenglama hosil qilinadi. Integral tenglamalar nazariyasining klassik natijalari yordamida masalaning mavjudlik va yagonalik shartlari aniqlanadi.

Tahlillar shuni ko‘rsatadiki, ma’lum shartlar bajarilganda teskari masala yagona yechimga ega bo‘ladi va kichik xatoliklar yechimda cheklangan o‘zgarishlarga olib keladi. Bu esa masalaning shartli korrektiligini ta’minlaydi. Taklif etilgan yondashuv Ionkin shartli masalalar uchun samarali bo‘lib, boshqa turdagi integral shartlarga ega tenglamalarga ham tatbiq etilishi mumkin.

Xulosa

Maqolada Ionkin shartli bir o‘lchamli issiqlik tarqalish integro-differensial tenglamadan yadroni aniqlashning teskari masalasi o‘rganildi. Masalaning matematik qo‘yilishi asoslandi hamda uning asosiy xususiyatlari tahlil qilindi. Yadro funksiyasini aniqlash uchun integral tenglamalar nazariyasiga asoslangan yondashuv taklif etildi.

Olingan natijalar teskari masalaning mavjudlik va yagonalik shartlarini aniqlash imkonini berdi. Tadqiqot natijalari issiqlik jarayonlarini modellashtirish, muhit xossalari tiklash va amaliy masalalarni yechishda muhim ahamiyatga ega. Kelgusida ushbu yondashuvni ko‘p o‘lchamli masalalarga va boshqa turdagi chegaraviy shartlarga kengaytirish istiqbolli yo‘nalishlardan biri hisoblanadi.

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ILMIY-TEXNIKA TARAQQIYOTI VA UNING JAHON IQTISODIYOTIGA TA'SIRI

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Annotatsiya: Ushbu maqolada ilmiy-texnika taraqqiyotining jahon iqtisodiyotiga ta'siri, sanoat inqiloblari bosqichlari, muhim ixtirolar va texnologik yutuqlarning iqtisodiy-ijtimoiy hayotga ta'siri yoritilgan. Shuningdek, ilmiy-texnika taraqqiyoti va uning natijasida erishilgan sanoatdagi yutuqlar va ixtirolarning ijobiy jihatlari – ishlab chiqarish samaradorligi, global savdo va farovonlikning ortishi, hamda salbiy oqibatlari – ishsizlik, tengsizlik va ekologik muammolar ko'rib chiqilgan.

Kalit so'zlar: Ilmiy-texnika taraqqiyoti, sanoat inqiloblari, ishlab chiqarishning avtomatlashtirilishi, internet va kommunikatsiya, sun'iy intellekt, robototexnika, global savdo aloqalari, ishsizlik, ijtimoiy tengsizlik, logistika tizimlarining rivojlanishi.

Abstract: This article looks at how science and technology progress affects the world economy. It explains the stages of industrial revolutions, important inventions, and new technologies, and how they changed social and economic life. The study also shows the good sides of progress – higher production, more global trade, and better living standards – as well as the bad sides, such as unemployment, inequality, and environmental problems.

Keywords: Scientific and technological progress, industrial revolutions, automation of production, internet and communication, artificial intelligence, robotics, global trade relations, unemployment, social inequality, development of logistics systems.

I. KIRISH

Insoniyat tarixi, uning rivojlanish bosqichlari va ularga ta'sir qiladigan omillarga nazar soladigan bo'lsak, bu jarayon juda uzoq va murakkabdek tuyuladi. Lekin so'ngi

asrlarda insoniyat hayoti tubdan o'zgarganiga va jadal rivojlanib borayotganiga guvoh bo'lmoqdamiz. Tarixda insoniyat rivojlanishi va bir-bosqichdan ikkinchisiga o'tganligi minglab yillarda sezilgan bo'lsa, hozirda bu bir yoki ikki asr balki undan ham qisqa vaqtda o'z ta'sirini ko'rsatayotganligini va oldingisidan farqli bo'lib borayotganligini ko'rmoqdamiz. Insoniyat hayotini tubdan o'zgarishiga sabab bo'layotgan omillardan asosiysi - bu ilmiy-texnika taraqqiyotidir. Nafaqat texnologiyalar, ishlab chiqarish uslublari tubdan o'zgardi, balki insonlarning yashash tarzi, iqtisodiy tizimlar va xalqaro munosabatlarni ham butunlay o'zgarishiga sabab bo'lgan narsa ilmiy-texnika taraqqiyotidir. Hozirgi kunda iqtisodchi olimlar mamlakatlarning iqtisodiy rivojlanish darajasi va uning aholising qay darajada farovonlikda yashashini mamlakatning ilmiy-texnikaga berayotga e'tiboriga va texnologiyalarning qay darajada joriy etganligiga bog'liq deya e'tirof etishmoqda.

Ilmiy-texnika taraqqiyoti mamlakatlarning iqtisodiy o'sishining asosiy omillaridan biri hisoblanadi. Ilmiy texnika taraqqiy etgan mamlakatlarda deyarli har bir sohada texnologiyaning eng so'ngi rivojlangan bosqichini ko'rish mumkin. Masalan, ishlab chiqarish, robototexnika, axborot almashinuvi, energiya resurslaridan foydalanish, ta'lim, sog'liqni saqlash va boshqa sohalarda ilmiy-texnika taraqqiy etganligi sezilib turadi, ya'ni ushbu sohalarda texnologiyaning tutgan o'rni va muhimligi yuqori hisoblanadi. Mamlakatda ishlab chiqarishdan tortib, xizmat ko'rsatishgacha ilmiy-texnika taraqqiyotining rivojini ko'rish mumkin. Chunki texnologiyalar yuqoridagi sohalarda va boshqa har qanday sohada juda katta ulushga ega.

II. Asosiy qism

Ilmiy - texnika taraqqiy etishining foydali jihatlariga to'xtaladigan bo'lsak, texnologiyalar va u joriy qilingan har bir sohani tahlil qiladigan bo'lsak, texnologiya shu sohani rivojlanishida va hatto sohaning xizmati natijasi karrasiga ortib ketganligini, ko'ramiz. Masalan, ishlab chiqarishga texnologiyalarning joriy qilinishi va qo'l mehnati o'rniga texnikalarning joriy qilinishi oqibatida qanday natijalarga erishish mumkinligiga e'tibor bersak. Ishlab chiqarishda texnologiyalarning joriy qilinishi, mashinalar, stanoklar va turli xil uskunalardan foydalanishi oqibatida tarixda sanoat inqiloblari kelib chiqqanligini ko'rish mumkin. Sanoat inqilobi - qo'l mehnatiga asoslangan manufaktura sanoatidan mashinalashgan yirik industriyaga o'tish jarayonini ifodalovchi iqtisodiy va ijtimoiy-siyosiy o'zgarishlar tizimi. Bu tushuncha 19-asrning 2-yarmida Arnold Toynbi tomonidan kiritilgan.¹ Sanoat inqilobi natijasida

¹ [The Industrial Revolution : Toynbee Arnold J. : Free Download, Borrow, and Streaming : Internet Archive](#)

bir mamlakatning va keyinchalik boshqa mamlakatlarning ham katta tezlikda ishlab chiqarishda ulkan natijalarga erishganini ko`rish mumkin.

Sanoat inqiloblarini iqtisodiyotga ta`sirini inobatga olgan holda tahlili:

Birinchi sanoat inqilobi Buyuk Britaniyada boshlangan bo`lib<sup>2</sup>, keyinchalik u boshqa mamlakatlarga ham yetib bordi. Bu inqilob mamlakatlar iqtisodiy rivojlanishida burilish nuqtasi bo`ldi, chunki bu hodisadan so`ng mamlakatlar ishlab chiqarishda misli ko`rilmagan yutuqlarga erishdi.

Asosiy texnologik yutuqlar va ixtirochilar haqida to`xtaladigan bo`lsak, bu ixtirolar sanoatlashishda o`zining juda muhimligi bilan ajralib turadigan, mamlakatlar iqtisodiyotiga ta`sirini ko`rsatgan va keyinchalik jahon iqtisodiyotining rivojlanishiga turtki bo`lganligi bilan ajralib turadi va ular quyidagilardir:

Bug` dvigateli³:

Tomas Nyukomen(18-asr) bug` dvigatelinini ixtiro qilgan bo`lsa ham u unchalik samarali emasdi, chunki juda katta noqulay edi.

Jeyms Vatt - bug` dvigatelinini takomillashtirgan va uning ishlash samarasini oshirgan, ya`ni unga alohida kondensator qo`shdi. Bu esa unga yo`lg`I sarfini sezilarli darajada kamaytirdi. Shuningdek u dvigatelning aylana harakat qilishni ta`minlovchi mexanizmlarni ixtiro qildi. Bu ixtiro sanoat inqilobining jaddalashuviga sabab bo`ldi va texnologiyalarda juda keng qo`llanila boshlandi. Masalan, u asosida birinchi bug` lokomativi yasaldi. Jorj Stevensonning 1814-yildagi ixtiroosi ham shunga asoslangan edi va bu bilan temiryo`l transporti rivojlandi. Bug` kemalari ham shu ixtiroga asoslangan va keyinchalik iqtisodiy rivojlanishda juda katta sakrashlarga sabab bo`lgan. Bu ixtiro natijasida sanoat inqilobi yuz berdi. Iqtisodiy jihatdan ahamiyat beradigan bo`lsak, bu zavodlar tizimiga o`tildi, qo`l mehnatiga nisbatan texnikalarning o`rni oshib bordi, chunki ularning ishlab chiqarish hajmi ko`proq va samaraliroq edi ya`ni bir ishchi soatiga ishlab chiqaradigan mahsulot hajmi bir necha barobar oshdi. Aholi o`sishidan tashqari daromad o`sishi boshlandi. Bu ulkan hajmdagi iqtisodiy o`sishning boshlanishi edi. Zavodlar va infratuzilma katta sarmoya talab qiladi va kapitalning to`planishi kuzatiladi, bu esa moliya tizimining rivojlanishiga olib keldi.

To`qimachilik mashinalari⁴:

- 1) Jenny Spinning mashinasi(Spinning Jenny)⁵;
- 2) Suv kuchidagi yigirish mashinasi dastgohi(Water Frame)⁶;

² [What Is the 1st, 2nd, 3rd, and 4th Industrial Revolution | Empowered Automation Solutions LLC](#)

³ [Steam engine | Definition, History, Impact, & Facts | Britannica](#)

⁴ [The Development History of Weaving Machine - SUNTECH TEXTILE MACHINERY](#)

⁵ [Search | Britannica](#)

⁶ [Water frame | textile technology | Britannica](#)

3) Mule yigirish mashinasi(Spinning Mule).

Yuqoridagi ixtirolar inqilobning o`chog`i hisoblanadi va birinchi ixtirolar ham aynan shu sohada bo`lgan. Insoniyat ijtimoiy-iqtisodiy hayotida tub burilish yasagan desak bo`ladi.

Yuqoridagi ixtirolarning iqtisodiy va ijtimoiy ta`siri haqida so`z yuritadigan bo`lsak, to`qimachilik sanoati birinchi bo`lib zavod tizimiga o`tdi. Zavodlarning qurilishi odamlarning ishlab chiqarish usulini uydan zavodga ko`chirishga sabab bo`ldi, endi odamlar zavodda ishlay boshlashdi, bu esa zavodlar atrofida aholining yig`ilishi va migratsiyaning ko`payishi natijasida urbanizatsiya kuchaydi, ayniqsa sanoat inqilobidan keyin. Boshqa sohalar uchun ham turtki bo`ldi ya`ni metallsozlik, mashinasozlikda ham sezildi. Ushbu ilmiy-texnika yutug`ining iqtisodiyotga ta`siriga misol qilib, Buyuk Britaniyada to`qimachilik mashinasi ixtirosi ortidan paxta ishlab chiqarish hajmi juda katta miqdorda (deyarli 50 barobar) oshgan. Shuningdek, ishlab chiqarilayotgan mahsulotlarning ham narxining pasayishiga olib keldi bu esa aholining ishlab chiqarilayotgan tovarlarni sotib olishga nisbatan imkoniyatlari kengaydi. To`qimachilikda mexanik to`quv mashinasining yaratilishi yangi bosqichni boshlab berdi. Bug` dvigatellarining ishga tushirilishi va mexanik uskunalaridan foydalanish ishlab chiqarishda yangi bosqichning boshlanganligini bildirdi. Avval ishlab chiqarish qo`l mehnatiga va hunarmandchilikka asoslangan edi va bu inqilob natijasida fabrikalarda ilmiy-texnikaning o`sha davrdagi yutug`i bo`lgan mexanik uskunalar yordamida to`liq zavod tizimiga o`tildi. Temirchilik, energetika, to`qimchilik va transport sohasida yangiliklarga e`tibor berildi. Mexanik to`qish va ip ishlab chiqarishdagi ixtirolar paydo bo`la boshladi. Bug` dvigatellarining va mexanik uskunalarining keng tarqalishi ishlab chiqarishda yuqori darajalarga erishishga olib keldi. Fabrikalar, zavodlar ko`payib borishi natijasida ishchi kuchining harakatlanishida shaharlashuv kuchaydi bu qishloqdan shaharlarga migratsiya kuchayishi oqibatida yuz berdi va transport infratuzilmasi rivojlandi. Bu qanday bo`lganligiga to`xtalsak, dastlabki fabrikalar suv yoki bug` quvvatidan foydalanib, ko`plab ishchilar va mashinlarni bir joyga to`plab samarali ishlab chiqarish imkonini berdi. Mexanik uskunalar va dvigatellar inson mehnatining samaradorligini hissasiga oshirib berdi va bir ishchining ishlab chiqargan mahsulotlar soni ko`paydi. Bu ishlab chiqarish unumdorligining oshganligini bildiradi. Shu kabi ixtirolarning katta ixtirolarga asos bo`lishi va oxirida iqtisodiy o`sishga olib kelganligini ko`rishimiz mumkin.

Transport tizimidagi ilmiy-texnikaning yutuqlari va iqtisodiyotga ta`siri:

Zavodlar qurilishi ko`paygan, tovarlar hajmi ortgandan so`ng uni uzoq masofaalarga yetkazish va hatto qit'a mamlakatlari bilan savdo qilish hajmini kengaytirishga ehtiyoj tug`ildi. Yuklarni bir joydan ikkinchi joyga yetkazishda temiryo`l va suv transporti juda muhim ixtiro bo`ldi. Temiryo`l bug` dvigateli Richard Trevik tomonidan 1804-yilda ixtiro qilingan, Jorj Stefenson va uning o`g`li texnologiyaning takomillashivuga hissa qo`shgan. U birinchi shaharlararo temiryo`l Liverpol-Manchester liniyasini qurdi. Bu yo`l 1830-yilda ishga tushirilgan bo`lib unda lokomotivlardan foydalanilgan.<sup>7</sup> Bug` dvigatellaridan kemasozlikda ham foydalanishni joriy qilish ham iqtisodiy rivojlanish pog`onasida sakrash bo`ldi desak bo`ladi. Bundan tashqari kanallar qurilishi ham yuklarni tashishni yengillashtirdi. Suv transporti ham jahon iqtisodiyitidagi muhim o`rni bilan ajralib turadi buni quyida batafsil tahlil qilamiz.

Temiryo`llarning qurilishi og`ir yuklarni uzoq masofalarga hatto qita`lararo harakatlanishida muhimdir. Masalan, temiryo`ldagi lokomotiv 50 ta vagonni torta oladigan bo`ldi, an`anaviy yo`l transportida esa bir ot faqat bitta aravani torta olardi. O`sha paytda temiryo`l transportining tezligi 40 km soatiga deb olsak demak, temiryo`lda yuklar soatiga 40-50 km tezlikda tashiladigan bo`lgandi, bu savdo aylanishini sezilarli darajada oshganini ko`rsatmoqda. Temiryo`lning yana bir ustunligi u har qanday ob-havo sharoitida ishlardi, ya`ni savdo vaqti va boshqa narsalarni rejalashtirishni osonlashtirgan. Suv transportiga keladigan bo`lsak, paraxodning ixtiro qilinishi iqtisodning misli ko`rilmagan darajada gurkirab rivojlanishiga olib keldi. Og`ir yuklarni ham dengiz orqali yoki kanal orqali bir joydan boshqasiga oson tashishga erishildi. Okeanlar orqali savdo yo`llarida ham tashish imkoniyatiga ega bo`lish xalqaro savdoni ham jadal rivojlanishiga olib keldi. Chuqurroq tahlil qiladigan bo`lsak yuklarning tashishining osonlashuvi va transport vaqtining qisqarishi bu tovarlarning narxi pasayishiga olib kelgan.

Axborot tizimining ham rivojlanishiga turtki bo`ldi desak bo`ladi, masalan, gazeta, pochta va xatlarning yetib borish vaqtining qisqarishi biznes qarorlar qabul qilish imkonini berdi. Iqtisodiyotga umumiy ta`siri esa bozorlarning kengayishida, xalqaro bozorga chiqish imkonini paydo bo`lganligida ko`rindi. Transport tizimidagi ixtirolar sabab zavodlarga xomashyoning uzluksiz ta`minlanishiga erishildi ya`ni fabrikalar resurs yo`qligi sabab to`xtab qolmasdi. Sanoat inqilobining yutuqlari mamlakatlarning industrlashida katta qadam bo`ldi va iqtisodiy jihatdan katta yutuqlarga erishishiga zamin yaratdi.

⁷ [George Stephenson \(1781–1848\) - Network Rail](#)

Ilmiy texnika taraqqiyotida to'xtab qolmasdan keyingi sanoat inqiloblariga ham asos bo'lib xizmat qilmoqda. Masalan, keyingi bosqich bo'lgan Ikkinchi sanoat inqilobi⁸ ya'ni 19-asr oxiri va 20-asr boshlaridagi ilmiy-texnika yutuqlariga to'xtaladigan bo'lsak, undagi asosiy yutuqlar quyidagilardir: elektr energiyasi, ichki yonuv dvigateli, kimyo sanoatidagi ixtirolar, telekommunikatsiya ya'ni telefon, radio, telegraf va ko'plab ixtirolarni kiritsak bo'ladi. Bu bosqichning iqtisodiyotga ta'siri misli ko'rilmagan darajasi va hajmi bilan ajralib turadi. Ommaviy ishlab chiqarish, yangi zavodlar va konveyerlar, avtomobilsozlik, elektrotexnika, tezkor aloqalar insoniyat hayotini yangi bosqichga olib chiqdi. Birgina neft qazib olishni oladigan bo'lsak, bundan milliardlab dollar foyda olinishi bu sohaning iqtisodiyotni rivojlanishi yo'lidagi beqiyos ixtiro ekanligini isbotlaydi, hozirgi kunda ham neftning savdosi qanaqa darajada jahon iqtisodiyotiga ta'sir qilishini mamlakatlar misolida ko'rib turibmiz. Shaharlar, ko'chalar, uylar elektrlandi bu esa insoniyat hayotiga ilmiy-texnika taraqqiyotining ta'sirini ifodalaydi.

Uchinchi sanoat inqilobi⁹ deya nom olgan (1960-2000-yillar) davr bu raqamli texnologiyalarning asri deb tarflanadi. Bu davrdagi ilmiy-texnikaviy yutuqlar quyidagilardir: kompyuter texnologiyalari, masalan Intel - birinchi mikroprotsessorni yaratdi, IBM - shaxsiy kompyuterlarni ommalashtirdi, Microsoft - operatsion tizimlarni ishlab chiqdi, Apple - foydalanishga oson va sifatli kompyuterlarni yaratdi. Internet va raqamli Kommunikatsiyalar: ARPANET - butun dunyo tizimlarining o'zgarishiga sabab bo'lgan internetning paydo bo'lishidagi dastlabki qadam hisoblanadi. Mobil telefonlarning paydo bo'lishi aloqalarning tez yetib borishi va kommunikatsiya rivojida sakrash bo'ldi desak bo'ladi. Biotexnologiya sohasida farmatsevtikaning rivoji ya'ni dori-darmon va yangi davolash usullarini paydo bo'lishining o'zi bu davrning rivojlanish bosqichidagi muhimligini anglatadi.

Jahon iqtisodiyotida bu bosqichning ta'siri haqida so'z yuritadigan bo'lsak, ishlab chiqarishning globalizatsiyasi, yangi global bozorlar paydo bo'lishi bilan bog'lash maqsadga muvofiq bo'lar edi. Bu davrda jahon iqtisodiyotining strukturaviy o'zgarishi sodir bo'ldi. Batafsil to'xtaladigan bo'lsak, xizmat ko'rsatish sektorining dominantligi ya'ni rivojlangan mamlakatlarda xizmat ko'rsatish sektori 70% dan balandligi, an'anaviy sanoat ish o'rinlarining qisqarishini ko'rishimiz mumkin. Jahon iqtisodiyotida yangi logistika tizimlarining paydo bo'lishi va shunday kompaniyalarning paydo bo'lishini, elektron savdoning global o'sishi, global yetkazib berish tarmoqlari, moliya tizimining global o'zgarishi, bilim iqtisodiyotining

⁸ [What Is the 1st, 2nd, 3rd, and 4th Industrial Revolution | Empowered Automation Solutions LLC](#)

⁹ [What Is the 1st, 2nd, 3rd, and 4th Industrial Revolution | Empowered Automation Solutions LLC](#)

dominantligi va global iqtisodiy ko'rsatkichlarning o'zgarishi ushbu bosqichdagi ilmi-texnika taraqqiyoti yutuqlarining jahon iqtisodiyotiga ta'sirini yoritib beradi.

To'rtinchi sanoat inqilobi¹⁰ (2000-yildan hozirgacha) davrini ishlab chiqarish samaradorligining misli ko'rilmagan darajada oshganligi, yangi kasblar paydo bo'lganligi, masofadan turib ishlash, masofaviy ta'lim, sun'iy intellekt, aqlli uylar, aqlli shaharlar, robototexnika, biotexnologiya va genetika, kvant kompyuterlar, kvant kriptografiyasi va eng muhimi kosmik texnologiyalarning rivojlanishi bilan bog'lab o'rganamiz. Bu davrning iqtisodiyotga ta'sirining qolgan davrlardan asosiy farqlaridan biri qo'l mehnati emas aqliy mehnatning asosiy o'ringa chiqib qolishi va iqtisodiy jihatdan qaraydigan bo'lsak, aqliy mehnat yoki smart texnologiyalar orqali davlatlar qo'l mehnatidan ko'ra o'nlab barobar ko'proq foyda olishidir. Endi iqtisodiyotning katta qismini qishloq xo'jaligi-yu, sanoat emas, balki axborot texnologiyalari va robototexnika, IT, raqamli texnologiyalar egallay boshladi.

Jahon iqtisodiyotiga ta'sirini ko'rib chiqadigan bo'lsak, ishlab chiqarish hajmining karrasiga ortganligi, sarflanuvchi energiya hajmining esa kamayganligini ko'rishimiz mumkin. Avtomotlashtirish orqali bir kunda 24 soat ishlaydigan zavodlarning borligi, mehnat unumdorligi oshishiga, ishlab chiqarish xarajatlarining bir muncha pasayishiga imkon berdi. Yashil iqtisodiyotga o'tayotganligi, chiqindilarni qayta ishlash atmosferaga chiqayotgan gazlarni kamaytirishning har xil yo'llarining yaratilayotgani bu davrning jahon iqtisodiyotiga foydali jihatlardan biridir. Zamonaviy logistika esa tovarlar harakatini osonlashtirdi va unga sarflanadigan vaqtni karrasiga kamaytirdi. Mehnat bozori o'zgardi, yangi kasblar paydo bo'ldi, an'anaviy kasblar esa yo'qolib bormoqda. Moliyaviy tizim o'zgarmoqda, masalan, blokcheyn va kriptovalyutalar, an'anaviy banklarni chetlab o'tgan holda mobil to'lovlarning ommalashishi bu bosqichdagi ilmiy-texnika taraqqiyotining jahon iqtisodiyotiga ta'sirini belgilab berdi.

Ilmiy-texnika taraqqiyotining jahon iqtisodiyotiga salbiy ta'siri:

Ilmiy-texnika taraqqiyoti insoniyatning juda ulkan yutug'i bo'lishiga qaramay u jahon iqtisodiyotida salbiy ta'sirlarga ham ega. Uning asosiy zararlaridan biri bu ishsizlik va mehnat resurslarining qisqarishidir. Texnologiyaning sanoatda va boshqa sohalarda joriy qilinishi oqibatida ko'plab an'anaviy kasblar yo'qolmoqda, robotlashtirilgan ishlab chiqarish qo'l mehnatini siqib chiqardi. Sun'iy intellekt bugungi kunda xizmat ko'rsatish, bank, ta'lim sohalarida inson o'rmini egallamoqda. McKinsey Global

¹⁰ [What Is the 1st, 2nd, 3rd, and 4th Industrial Revolution | Empowered Automation Solutions LLC](#)

Institute (2023) hisobotiga ko`ra, 2030-2040- yillarga borib dunyoda 400 mln.ga yaqin ish o`rni avtomatlashtirish tufayli yo`qolishi mumkin.¹¹

Ijtimoiy tabaqalanish yuz berishi kuzatilmoqda. Ya`ni texnologiyalar yuqori malakali va kapitalga ega qatlamlarga foyda keltiradi. Quyi qatlam esa avtomatlashtirish oqibatida ishini yo`qotadi yoki past maoshli ishlarda ishlashga majbur bo`ladi. Ilmiy-texnika taraqqiyotida ishlab chiqarish hajmi oshgan bo`lsada, bu jarayon ekologik muvozanatni buzmoqda. Atmosfera ifloslanib, iqlim o`zgarishi, hatto okeanlarning ifloslanishiga olib kelamoqda. Bugungi kunga kelib Tinch okeanida chiqindilar hajmi bitta qit`a hajmiga yetgani bekorga emas. Axborot xavfsizligi dolzarb bo`lib bormoqda, chunki kiberjinoyatlar juda ham avj olib ketgan. Axloqiy va ijtimoiy muammolar, mahsulot sifati va iste`mol madaniyatining pasayishi, mahalliy ishlab chiqarishning pasayishi va global qaramlik va yuqorida aytilganidek ijtimoiy tengsizlik kelib chiqmoqda. Bular Ilmiy-texnika taraqqiyotining iqtisodiyotga salbiy ta`sirlaridir.

Xulosa

Xulosa qiladigan bo`lsak, ilmiy-texnika taraqqiyotining jahon iqtisodiyotiga ta`siri va insoniyatning tarixidagi o`rni beqiyosdir. Ilmiy-texnika taraqqiyoti jahon iqtisodiyotining harakatlantiruvchi kuchidir va uning insoniyatga bergan yutuqlari, ya`ni ixtirolari natijasida sanoat, ijtimoiy hayot, infratuzilma, shaharlar, yo`llar, insoniyat farovonligi yo`lida xizmat qiladigan jamiyki narsalar paydo bo`ldi va borlari rivojlandi. Bular orqali insoniyat hayoti tubdan o`zgardi, ayniqsa bu so`ngi uch asrda to`liq namoyon bo`ldi. Texnologiyalar orqali odamlar og`ir mehnatdan halos bo`lishiga, ishlarining unumdorligi ortishiga va bu orqali yashash tarzi yaxshilanishiga olib keldi. Zavod va fabrikalarning paydo bo`lishi va ularning ko`payishi natijasida migratsiya orqali urbanizatsiya kuchaydi, katta shaharlar paydo bo`ldi va ularning infratuzilmasi butunlay o`zgardi. Texnologik yutuqlar va ularning rivojlanib borishi natijasida global savdo aloqalari rivojlandi, bu esa jahon iqtisodiyotining o`sishiga olib keldi. Biroq, ilmiy-texnika taraqqiyotining salbiy oqibatlari bor ekanligini ham ko`rdik. Avtomatlashtirish, mashinasozlik, texnologiyalarning keng qo`llanilishi oqibatida ayrim kasblar yo`qolib, ishsizlikka sabab bo`lmoqda. Odamlar orasida iqtisodiy tengsizlikka ham sabab bo`lmoqda, shuningdek, ekologiyaga ham salbiy ta`siri borligi ekologik muvozaanat buzilayotganligi global xavfga aylanmoqda. Shunday bo`lsa-da, ilmiy-texnika taraqqiyotini to`xtatish emas, balki uni odamlarning foydasiga yo`naltirish zarurdir. Innovatsiyalar ijtimoiy adolat, barqaror iqtisodiyot va ekologik xavfsizlik tamoyillari asosida qo`llanilishi lozimdir. Shunday qilinsa, texnologik

¹¹ [McKinsey Global Institute \(MGI\) | McKinsey Global Institute | McKinsey & Company](#)

rivojlanish inson hayotini yaxshilash, iqtisodiy farovonlikni ta`minlash vositasiga aylanadi.

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OLIY TA'LIM MUASSASALARI TALABALARIDA REFLEKSIV KOMPETENSIYANING METAKOGNITIV MONITORING JARAYONIDAGI ROLI

Usmanova Nilufar Xasan qizi
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Annotatsiya

*Ushbu maqolada refleksiv kompetensiya va refleksivlik tushunchalarining nazariy jihatlarini oliy ta'lim muassasalari talabalarini o'quv faoliyatini **metakognitiv monitoring** prizmasi orqali tahlil qilinadi. Metakognitiv monitoring hamda refleksiv kompetensiyaning mohiyati nazariy jihatdan o'rganildi. Oliy ta'lim muassasalari talabalarini o'quv faoliyatini metakognitiv monitoring qilish jarayonida refleksiv kompetensiya va uning tarkibiy qismlarining o'rni tavsiflandi.*

Metakognitiv darajadagi refleksiv kompetensiya subyektning intellektual faoliyatining yuqori samaradorligini ta'minlovchi, zarur metakognitiv resurslarni faollashtiruvchi va refleksiv harakatlarni tashkil etuvchi shakllangan refleksiv ko'nikmalar tizimi sifatida qaraladi.

*Ta'lim taraqqiyotining hozirgi bosqichi bitiruvchilarni tayyorlash jarayonida **kompetensiyaga asoslangan yondashuvga** yo'naltirilganligi bilan tavsiflanadi. Talaba nafaqat muayyan bilimlar majmuasiga ega bo'lishi, balki o'zini-o'zi takomillashtirish, o'zini-o'zi rivojlantirish va o'zini-o'zi ro'yobga chiqarishga yo'naltirilgan bo'lishi lozim. Bundan tashqari, bitiruvchilardan keyingi professional faoliyatni samarali amalga oshirish uchun zarur bo'lgan turli kompetensiyalarga ega bo'lish talab etiladi.*

*So'nggi yillarda **refleksiya** ta'lim tizimida asosiy kompetensiyalardan biri sifatida e'tirof etilmoqda va u **refleksivlik** hamda **refleksiv qobiliyatlar** kabi tushunchalar bilan bir qatorda olimlar tomonidan faol o'rganilmoqda. Refleksiv kompetensiyaning asosiy vazifasi — shaxsning o'z harakatlari va qaror qabul qilish jarayonini kuzatish hamda nazorat qilish qobiliyati sifatida — refleksiv jarayonlarning eng samarali va adekvat amalga oshirilishini ta'minlashdan iboratdir. Refleksiv qobiliyatning ro'yobga chiqishi rivojlanish va o'z-o'zini evolyutsiyalash jarayonini ta'minlab, professional faoliyatda ijodkorlikni oshirishga, shuningdek, uning maksimal samaradorligi va natijadorligiga erishishga xizmat qiladi.*

Metakognitiv monitoring va reflektiv kompetensiya o'rtasida o'zaro bog'liqlik mavjud bo'lib, shuni ta'kidlash joizki, reflektiv ko'nikmalar majmuasining mavjudligi metakognitiv jarayonlarning amalga oshirilishini ta'minlaydi.

Mazkur maqolaning maqsadi oliy ta'lim muassasalari (OTM) talabalari o'quv faoliyatini metakognitiv monitoring qilish jarayonida reflektiv kompetensiya va uning tarkibiy qismlarining rolini o'rganishdan iborat. Yuqorida qayd etilgan tushunchalar asosan pedagogika, ta'lim psixologiyasi, umumiy psixologiya va kognitiv psixologiya kontekstida shaxsning professional sifati sifatida ko'rib chiqiladi. Xususan, reflektiv jarayonlar quyidagi mahalliy psixologlar tomonidan o'rganilgan: Balashov (2019), Dotsevych (2014), Balashov va boshq. (2018), Maksymenko (2017), Pasichnyk va boshq. (2014), Savchenko (2016), Tytarenko (2013). Shaxs darajasida o'z-o'zini refleksiya qilish va metakognitsiya masalalari esa Dunlosky va Metcalfe (2009), Hrynkiv (2016), Karpov (2012), Kholodnaya (2002), hamda Koriat va Bjork (2005) tadqiqotlarida yoritilgan.

Bugungi kunda metakognitiv jarayonlarga oid tadqiqotlar o'quv faoliyatida metakognitiv faollikning rolini aks ettiruvchi turli masalalarning nazariy va empirik tahlilini o'z ichiga oladi. Xususan, metakognitsiya va metakognitiv monitoring masalalari, ya'ni ushbu hodisalarning funksiyalari va strukturaviy tarkibiy qismlari, o'z-o'ziga ishonch (self-efficacy) hamda o'quv strategiyalari xorijiy va mahalliy olimlar tomonidan keng o'rganilgan (Andrade va Heritage, 2018; Avhustiuk, 2016; Bandura, 1997; Bembenuity va boshq., 2013; Dabbagh va Kitsantas, 2013; Flavell, 1979; Schunk, 1987; Winne, 2010; Zabrocky, 2010; Zimmerman va Schunk, 2011).

R. Ryan va E. Deci shaxsning motivatsiyasi, rivojlanishi va farovonligi jarayonida o'zini-o'zi belgilash hamda asosiy psixologik ehtiyojlar masalalarini tadqiq etgan (Ryan va Deci, 2017). Metakognitiv monitoring bilan o'quv faoliyatining muvaffaqiyati va samaradorligi o'rtasidagi bog'liqlik, xususan, ushbu jarayonning aniqligi va ishonchliligini o'rganish kontekstida, mazkur sohada asosiy muammolardan biri sifatida qaraladi (Dunlosky va Metcalfe, 2009; Fomin, 2012; Koriat va Bjork, 2005; Nietfeld va boshq., 2005; Savin, 2011; Valdez, 2013). Refleksiya bilan shaxsning metakognitiv tajribasi o'rtasidagi bog'liqlik esa Dovhaliuk va Voloshyna (2015), Dotsevych (2014), Karpov (2012), Kholodnaya (2002), Pasichnyk va Dovhaliuk (2016), Savin va Fomin (2011) tadqiqotlarida ko'rsatib berilgan.

Reflektiv kompetensiya ilmiy adabiyotlarda nisbatan yangi tushuncha bo'lgani sababli, uni chuqurroq anglash uchun uning asosini tashkil etuvchi **refleksiya** va **refleksivlik** tushunchalariga murojaat qilish zarur. O'z-o'zini refleksiya qilish jarayon

sifatida subyektning regulyativ tarkibiy qismiga mansub bo‘lib, shaxsning o‘z ichki psixik harakatlari va holatlarini anglashidan iboratdir. Umuman olganda, refleksiya o‘ziga yo‘naltirilgan jarayondir.

Falsafada refleksiya (lotincha *reflexio* — “orqaga qaytish”) insonning o‘z ongini anglash jarayoni sifatida talqin qilinadi. Psixologiyada esa ushbu tushunchaning turli izohlari mavjud. Refleksiya hodisasini izohlashning eng istiqbolli yondashuvlaridan biri sifatida refleksiyani shaxsning umumiy qobiliyati deb qaraydigan yondashuv ajratib ko‘rsatiladi; u shaxsga “hayotning uzluksiz jarayonini to‘xtatib, o‘zini uning chegaralaridan tashqarida ongli ravishda ko‘ra olish” imkonini beradi. Refleksiv jarayonlarni o‘rganishda metodologik vositalarning yetarli darajada ishlab chiqilmaganligi sababli muayyan qiyinchiliklar yuzaga kelgan. Bundan tashqari, A. Karpov ta’kidlaganidek, refleksiya bir necha ko‘rinishlarda namoyon bo‘ladi: refleksiv mexanizm, refleksiya jarayon sifatida, refleksiya holat sifatida va refleksivlik shaxsiy qobiliyat sifatida (Hrynkiv, 2016).

Refleksiv kompetensiya shaxsning integrativ psixologik shakllanmasi hisoblanadi. Uning shakllanishi subyekt tomonidan refleksiv tajribaning o‘zlashtirilishi orqali amalga oshadi, bunda ushbu tajribaning asosiy vazifasi tajribaning boshqa tarkibiy qismlarini muvofiqlashtirish va faoliyat jarayonida refleksiv ko‘nikmalardan samarali foydalanishni ta’minlashdan iborat. Shaxsning refleksiv kompetensiyasi refleksiv faoliyat jarayonida bevosita shakllanadigan, kasbiy va shaxsiy jihatdan muhim bo‘lgan sifatlar majmuasini o‘zlashtirish sifatida tushuniladi.

O. Savchenkoga ko‘ra, refleksiv faoliyatning uch darajasi mavjud:

- **kognitiv daraja** — shaxsning o‘z intellektual faoliyatining mohiyati, kechishi va asoslarini anglash;
- **metakognitiv daraja** — subyektning tashqi va ichki faoliyatini tartibga solishni ta’minlash;
- **shaxsiy daraja** — shaxsning o‘zini anglash va o‘zini ifodalashi.

Shuningdek, refleksiv kompetensiyaning to‘rtta asosiy tarkibiy qismi ajratiladi:

1. **Axborotli (informativ) komponent** — shaxsning mavjud axborotdan samarali foydalanish, muammoni hal etish va qaror qabul qilish jarayonining samaradorligini ta’minlash uchun muhim bo‘lgan shaxsiy xususiyatlaridan xabardorligi bilan bog‘liq.
2. **Instrumental komponent** — subyektning o‘quv faoliyatini tartibga solishga yo‘naltirilgan ko‘nikmalarni o‘z ichiga oladi; bunda asosiy mexanizm refleksiya jarayonining o‘zidir.
3. **Baholash-motivatsion komponent** — asosan prognostik qobiliyatlarni bilan tavsiflanadi va uch jarayonda namoyon bo‘ladi: ehtimollik asosida rejalashtirish,

kutish va oldindan ko‘ra bilish (anticipatsiya). Ushbu bashoratli xususiyatlarga shaxsiy sifatlar bilan bir qatorda subyektning kognitiv va metakognitiv ko‘nikmalarining rivojlanganlik darajasi ham ta’sir ko‘rsatadi.

4. **Xulq-atvoriy komponent** — subyekt tomonidan shakllantirilgan ko‘nikma va qobiliyatlarni muammo yechish yoki qaror qabul qilish jarayonida faol qo‘llash bilan bog‘liq (Savchenko, 2016).

Tashkiliy psixologiyada refleksiv kompetensiya boshqa nuqtayi nazardan talqin qilinadi; xususan, u psixik faoliyatni tartibga solish qobiliyati sifatida qaraladi (Leontyev va Averina, 2011). Y. Babaian fikricha, refleksiv kompetensiyaning mohiyati chuqur va ko‘p qirrali tahlildan foydalanish orqali shaxsning o‘z kasbiy chaqirig‘ini anglashiga, mos yo‘nalishda o‘zini ro‘yobga chiqarishiga hamda faoliyat natijasining ijtimoiy ahamiyatini belgilashga imkon yaratishdan iboratdir (Babaian, 2014). T. Nelson va L. Narens ga ko‘ra, refleksiv kompetensiya shaxsning kasbiy sifati bo‘lib, refleksiv jarayonlar va refleksiv qobiliyatlarning eng samarali va adekvat amalga oshirilishini ta’minlaydi; u subyektning rivojlanishi va o‘z-o‘zini evolyutsiyalashiga xizmat qiladi, professional faoliyatda ijodiy yondashuvni qo‘llash va uning maksimal samaradorligi hamda natijadorligiga erishishni ta’minlaydi (Nelson va Narens, 1990).

Metakognitiv monitoring **“metakognitsiya” tizimining tarkibiy qismi** hisoblanadi va metakognitiv jarayonlarni o‘rganish aynan ushbu tushunchaning shakllanishi va kashf etilishi bilan boshlangan (Hrynkiv, 2016). Metakognitsiya tuzilmasini ilk bor o‘rganib, ilmiy jihatdan asoslab bergan tadqiqotchi J. Flavell hisoblanadi. U metakognitiv jarayonlarni shaxsning o‘z kognitiv sohasining xususiyatlari va uni boshqarish usullari haqidagi bilimlari tizimi sifatida talqin qilib, ushbu tizimda to‘rtta asosiy fenomenni ajratib

ko‘rsatadi:

(a)	metakognitiv	bilimlar,
(b)	metakognitiv	tajriba,
(c)	maqsadlar	(yoki vazifalar),
(d)	harakatlar (yoki strategiyalar).	

Mazkur tarkibiy qismlardan dastlabki ikkitasi refleksiv shakllanmalar bo‘lib, ular orqali inson intellekti J. Flavell tomonidan “kognitiv monitoring” deb atalgan yangi sifatni kasb etadi. Olim ushbu tushunchani intellektual faoliyat jarayonini introspektiv tarzda kuzatish va uning borishini nazorat qilish qobiliyati sifatida izohlaydi. Flavell metakognitiv jarayonlarning regulyativ funksiyasining ustunligini ta’kidlab, refleksiyaga alohida ahamiyat qaratadi (Flavell, 1979).

Psixologiyada metakognitiv monitoring shaxsning muammo yechish yoki qaror qabul qilish jarayonida o'z tafakkur jarayonlari va o'quv faoliyatining kechishini, shuningdek, o'quv faoliyati natijalarini bevosita kuzatish jarayoni sifatida qaraladi (Avhustiuk, 2016). Ushbu jarayonning asosiy xususiyati shaxs tomonidan o'z fikrlari va harakatlari borishini ongli va mazmunli ravishda kuzatishning mavjudligidir; ya'ni subyekt faoliyatining faol pozitsiyasi va nazorati ta'minlanadi. Metakognitiv monitoringning samaradorlik mezonlariga quyidagilar kiradi: vazifalarni ustuvorlashtira olish, muammoni hal etish uchun zarur bo'lgan vaqt va sa'y-harakatlarni baholay bilish, hamda intellektual faoliyat ustidan doimiy nazoratni tashkil etish qobiliyati. Shu bilan birga, olimlar orasida metakognitiv monitoring mohiyatiga oid turli nuqtayi nazarlar mavjud bo'lib, ayrim tadqiqotchilar uni jarayon sifatida talqin qiladilar (Avhustiuk, 2016; Balashov va boshq., 2018; Nelson va Narens, 1990; Pasichnyk va boshq., 2014; Savin va Fomin, 2011).

Mazkur tushunchalar ilmiy adabiyotlarda keng yoritilganiga qaramay, ularning o'zaro nisbatiga oid yagona yondashuv mavjud emas. Asosiy ikki yondashuv ajratib ko'rsatiladi: birinchi yondashuvga ko'ra, refleksiv kompetensiya kengroq tushuncha bo'lib, u metakognitiv monitoring jarayonini o'z ichiga oladi; ikkinchi yondashuv esa metakognitsiya va metakognitiv monitoringni kengroq tushunchalar sifatida talqin qiladi, bunda refleksiv ko'nikmalar metakognitiv monitoringni belgilash va amalga oshirish imkonini beruvchi tarkibiy element sifatida qaraladi. Refleksiya bilan shaxsning metakognitiv tajribasi o'rtasidagi bog'liqlik Dotsevych (2014), Pasichnyk va Dovhaliuk (2016), Karpov (2012), Kholodnaya (2002), Savin va Fomin (2011), Dovhaliuk va Voloshyna (2015) tadqiqotlarida o'rganilgan. Ushbu olimlarning asosiy hissasi shundan iboratki, metakognitiv tajribani o'zlashtirishning asosi sifatida aqliy faoliyat refleksiyasi qaraladi (Fomin, 2011). T. Dotsevych tadqiqotlarida refleksivlik metakognitiv tajribani tashkil etuvchi muhim omil sifatida baholanib, aynan refleksivlik orqali metakognitiv jalb etilganlik va ongli xabardorlik faollashishi ta'kidlanadi (Dotsevych, 2014). A. Karpov esa refleksiya muammosining o'ziga xosligini ta'kidlab, refleksivlikni regulativ funksiyani bajaruvchi va barcha psixik jarayonlar tuzilmasida eng yuqori tizimli darajada joylashgan meta-ko'nikma sifatida talqin etadi (Karpov, 2012).

Metakognitiv darajada refleksiv faoliyat subyektning joriy faoliyatni monitoring qilishni tashkil eta olish qobiliyatida namoyon bo'ladi, bu esa faoliyatning borishini va uning natijalarini ongli ravishda kuzatish imkonini beradi. O'tmish tajribasi, xatolar va muvaffaqiyatlarni tahlil qilish, anglash va tushunish qobiliyati refleksiv kompetensiya sifatida yangi tajriba va bilimlarni o'zlashtirishga, shuningdek, o'quv jarayonida yangi

yutuqlarga erishishga xizmat qiladi (Babaian, 2014). Refleksiv kompetensiyaning yuqori darajada tashkil etilganligi muammoni hal etishning ehtimoliy modellarini yaratish, o'z harakatlarini o'z-o'zini tahlil qilish, shaxsiy hayot voqealarining oqibatlarini anglash qobiliyatlarini faollashtirish, shuningdek, ko'p bosqichli nazorat vaziyatlarida qaror qabul qilishga ko'proq vaqt ajratish orqali o'z intellektual imkoniyatlarini baholashga xizmat qiluvchi samaraliroq refleksiv faoliyat shakllarini shakllantirishga yordam beradi (Balashov, 2019).

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**БАНК ХИЗМАТЛАРИ БОЗОРИДА ИННОВАЦИЯЛАРНИ ЖОРИЙ
ЕТИШ ОРҚАЛИ ТИЖОРАТ БАНКЛАРИНИНГ
РАҚОБАТБАРДОШЛИГИНИ ОШИРИШ**

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Барчамизга маълумки мамлакатимиздаги банк тизимларида замонавий ахбороткоммуникация-технологияларининг кириб бориши натижасида банклар билан мижозлар ўртасида ўзаро ҳамкорлик алоқаларини янги босқичга олиб чиқишига турки бўлмоқда. Бугунда Ўзбекистонда электрон тўловлар, интернет глобал тармоғи ва мобил алоқа воситалари орқали банк соҳаси мижозларига турли хилдаги интерактив хизматлар кўрсатиш тизимлари жорий этилиб, улардан самарали фойдаланилмоқда. Иқтисодий интеграция ва глобаллашув шароитида хўжалик субъектлари ва жисмоний шахслар ўз фаолиятларида электрон тўловлар, электрон тижорат имкониятларидан самарали фойдаланиш улар ўртасидаги ўзаро соғлом рақобатни мустаҳкамлаш билан бир қаторда юқори иқтисодий натижаларга эришиш омили ҳам ҳисобланади². Буннинг энг асосий эътиборли тамони шуки, банкларнинг рационал даромадлилигини ортишини таъминланишига ҳамда тижорат банклари турли янги инновацион хизмат турларини жорий этилиши орқали банк хизматларини жозибадорлиги ошишига ва янги мижозлар жалб этишга, мижозлар билан яқин ҳамкорлик муносабатларини ўрната олишига имкониятини яратади.

Банк тизими самарадорлигини ошириш тадбиркорлик субъектлари ва аҳолининг арзон ва сифатли молиявий хизматларга ўсиб бораётган эҳтиёжларини таъминлаш учун иқтисодий ривожланишнинг энг муҳим омили ҳисобланади, бундан ташқари замонавий банк тизимини шакллантириш, банкларнинг инвестициявий жозибадорлигини ошириш ва банк хизматларининг янги стандартларини жорий этишга қаратилган банк тизимида комплекс ўзгартиришларни амалга ошириши юзасидан Ўзбекистон Республикаси Президентининг 12.05.2020 йилдаги ПФ-5992-сонли Фармонида белгилаб ўтилган.¹

¹ Ўзбекистон Республикаси Президентининг 12.05.2020 йилдаги ПФ-5992-сонли Фармони

Банк инфратузилмасининг ривожланишига йўналтирилган инвестициялар банкларга янги технологияларни жалб этиш орқали янги хизмат турлари кенгайиши ва мижозлар базаси ошишига олиб келган. Европа ва АҚШ банклари инвесторлари ўз маблағларининг 91 фоизини банк фаолияти самарадорлигини оширишда инфратузилмага инвестиция киритишга сарфламоқда⁸. Бугунда дунёда технологиялар ривожланиш ва тараққиёт этиб бораётган бир давирда эски банк хизмат турларининг ўрнини рақамли банкинг хизмат турлари эгаллаб бормоқда.

Ривожланган ва ўтиш иқтисодиётидаги мамлакатлар тажрибаси кўрсатдики, банк инфратузилмасининг ривожланишида асосий эътибор хизматларни ва технологияни ривожлантиришга қаратилган.

Бугунги кунда Буюк Британия, Италия, Германия, АҚШ, Корея, Япония сингари мамлакатлар аҳолиси масофавий банк хизматларидан фойдаланиш даражаси 55 фоиздан 98 фоизгачани ташкил этиши натижасида Италиянинг “Unicredit” гуруҳининг 2018 йилга келиб 800 та бўлими қисқарди. 2020 йилда “Bank of America”нинг филиаллари сони 800 тага қисқарди. “JP Morgan” таҳлилчилари бу борада олиб борган тадқиқотларида инвесторлар харажатларни қисқартирган ҳолда капитални рақамли иқтисодиётга йўналтиришнинг афзаллиги асосланди. Шунингдек, Германиянинг “Deutsche Bank” 1 млрд. еврони 2019-2021 йилларда рақамли банкинг 72 хил турдаги хизматларини ривожлантиришга йўналтириш режалаштирган. Бунга сабаб, агар банклар рақамли банкингга инвестиция ажратмас экан, улар асосий даромадини 30-35 фоиз йўқотиши мумкин деган тахминлар илгари сурилган.²

Таъкидлаб ўтганимиздек, янги банк хизматларини жорий этишда вақтни тежаш ва харажатларни қисқартиришга олиб келиш асосий элемент бўлиб қолади, деб ўйлаймиз. Проф. Рахмонов (2019) инновацияларнинг моҳиятига тўхталиб ўтиб, уни молиялаштиришга нисбатан қуйидаги талабларни бўлишини тавсия этади: “инновация деган мақомга эга бўлиши учун, аввало, янги ғоя қуйидаги талабларнинг кўп қисмига жавоб бериши шарт, деб ҳисоблайди: вақтни тежалиши. харажатларни камайтириши (ресурсларни тежаши). экологик ҳолатга салбий таъсир этмаслиги”. Шу нуқтаи назардан, янги банк хизматларини онлайн шаклда ҳам тақдим этиб борилиши қуйидаги тенденциялар билан янада кўпроқ ўз ифодасини топмоқда. Биринчидан, аҳолининг банк офисларига бориб, навбатда туриб банкнинг чакана хизматларидан фойдаланиши. Ушбу жараёнда бир қанча вақт ва харажатларни амалга ошириши барчага маълум бўлган жараён

² The Goldman Sachs Group, Inc. Future of Finance: The Rise of China FinTech. August 7, 2021

ҳисобланади. Иккинчидан, банк хизматларини оффлайн тарзда кўрсатишида ҳар бир мижоз учун алоҳида вақт ажратиш, унинг тегишли ходимни бириктириш ва у билан боғлиқ харажатларни молиялаштиришнинг зарурати ҳам маълум бўлган феномен десак муболаға бўлмайди.³

Юқорида такидлаб ўтган хулосаларга кўра, шуни айта оламизки банк хизматлари бозорида инновацияларни (рақамли банк, AI, блокчейн) жорий этиш тижорат банкларининг рақобатбардошлигини оширишнинг асосий омилидир. Бу мижозларга тезкор, қулай ва мослаштирилган хизматларни тақдим этиш, харажатларни қисқартириш ва янги бозор сегментларини эгаллаш имконини беради, натижада банкнинг узок муддатли барқарорлиги таъминлланишига олиб келади.

Фойдаланилган адабиётлар рўйхати:

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³ Центральный Банк Российской Федерации <http://www.cbr.ru>

**ЖАЛБ ҚИЛИНГАН РЕСУРСЛАРНИНГ ҚИЙМАТИ ВА УНИНГ БАНК
ДАРОМАДЛИЛИГИГА ТАЪСИРИ
СТОИМОСТЬ ПРИВЛЕЧЁННЫХ РЕСУРСОВ И ЕЁ ВЛИЯНИЕ НА
ДОХОДНОСТЬ БАНКА
THE COST OF ATTRACTED RESOURCES AND ITS IMPACT ON BANK
PROFITABILITY**

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Аннотация. Ушбу мақолада тижорат банкларида жалб қилинган ресурсларнинг қиймати ва унинг банк даромадлилигига таъсири илмий-назарий ва амалий жиҳатдан таҳлил қилинган. Банк ресурсларини жалб қилиш билан боғлиқ харажатлар, уларнинг тури ва муддати, шунингдек бозор конъюнктурасига боғлиқлик масалалари ёритилган. Мақолада жалб қилинган маблағларнинг номинал ва реал қийматини ҳисоблаш усуллари таклиф этилган ҳамда уларнинг банк актив операциялари самарадорлигига таъсири асослаб берилган. Алоқабанк филиали мисолида амалий ҳисоб-китоблар ўтказилиб, банк ресурсларини бошқариш самарадорлигини ошириш бўйича илмий хулосалар шакллантирилган.

Калит сўзлар: тижорат банки, банк ресурслари, жалб қилинган маблағлар, номинал қиймат, реал қиймат, банк харажатлари, банк даромадлилиги.

Аннотация. В статье рассматриваются теоретические и практические аспекты стоимости привлечённых ресурсов и их влияния на доходность коммерческих банков. Проанализированы расходы, связанные с привлечением банковских ресурсов, их структура, сроки и зависимость от рыночной конъюнктуры. Предложены методы расчёта номинальной и реальной стоимости привлечённых средств, а также обосновано их значение для оценки эффективности активных операций банка. На примере филиала АТ «Алоқабанк» проведены практические расчёты, на основе которых сформулированы выводы и рекомендации по повышению эффективности управления банковскими ресурсами.

Ключевые слова: коммерческий банк, банковские ресурсы, привлечённые средства, номинальная стоимость, реальная стоимость, банковские расходы, доходность банка.

Abstract. This article analyzes the theoretical and practical aspects of the cost of attracted resources and their impact on the profitability of commercial banks. The study examines the expenses related to attracting bank resources, their structure, maturity, and dependence on market conditions. Methods for calculating the nominal and real cost of attracted funds are proposed, and their importance in assessing the efficiency of banks' active operations is substantiated. Practical calculations are carried out using the example of a branch of AT "Aloqabank", and conclusions and recommendations are formulated to improve the efficiency of bank resource management.

Keywords: commercial bank, bank resources, attracted funds, nominal cost, real cost, bank expenses, bank profitability.

Ресурсларни жалб қилиш бўйича харажатлар суммаси асосан, унинг турига ва муддатига, банк менежменти даражасига ва бозор конъюктурасига боғлиқ бўлади. Шунинг учун ҳам, таҳлил қилиш даврида ресурсларни жалб қилиш усули ва муддатининг банк харажатларига таъсирини баҳолаш керак; ҳар бир жалб қилинган ресурснинг жамидаги салмоғини аниқлаш; қимматроқ бўлган ресурсларнинг улушини аниқлаш; ҳар бир харажат турининг унга мос жалб қилинган маблағлар билан солиштириб кўриш керак. Ушбу таҳлилни банкнинг ички маълумотлари асосида олиб борса бўлади.

Жалб қилинган маблағларнинг ўртача қиймати улар қийматини ташкил қилувчи асосий таркибий қисми ҳисобланади, ўз навбатида бу банкнинг алоҳида операциялари ва жами банк маҳсулоти бўйича таннархни аниқлаш учун фойдаланилади.

Банклар амалга ошираётган актив операциялар самарадорлигини аниқлаш учун маблағларни жалб қилишга қилган харажатларни аниқ билиш муаммоси банклар олдида қўндаланг бўлиб турибди. Ушбу муаммони ҳал қилиш учун жалб қилинган маблағларнинг номинал қийматини аниқлаш лозим. Биз қуйидаги (K_n) формуладан фойдаланишни тавсия қиламиз.

$$K_n = \frac{P}{H} * \frac{Q}{t} * 100\% ^1 (1)$$

Ушбу формулада: P – таҳлил даврида жалб қилинган маблағ учун тўлов; H – ушбу даврда фойдаланилган жалб қилинган маблағларнинг суммаси (активлар суммаси); Q – йил ичидаги кунлар сони; t – кунлар сони (H маблағдан фойдаланиш давр ичида P хажмда тўланган тўловлар учун).

¹ Финансовый анализ в коммерческом банке/ А.Д. Шеремет, Г.Н. Щербакова. – М.: Финансы и статистика, 2000. – с. 97.

Масалан, АТ «Алоқабанк»нинг А филиали 2023 йил март ойида 2,5 млрд. сўм (Н) маблағдан фойдаланди. Ушбу маблағни жалб қилиш учун 0,03125 млрд. сўм (Р) харажат қилди, яъни, жалб қилинган маблағ учун тўловни тўлади. Юқоридаги формуладан келиб чиқиб январь ойи учун жалб қилинган маблағларнинг номинал қиймати (K_n) 14,7 фоизни ташкил қилди:

$$K_n = \frac{0.03125}{2.5} * \frac{365}{31} * 100\% = 14.7\%$$

Тижорат банклари ҳар ойда ушбу кўрсаткични ўзгариш динамикасига эътибор бериш керак. Ҳар бир жалб қилинган маблағларнинг ўртача фоиз ставкасининг ўзгаришини динамикада таҳлил қилиш даврида банк ресурсларининг қимматлашиши ёки арзонлашишининг умумий тенденциясини кўриш, қимматроқ ресурсларни аниқлаш, алоҳида турдаги ресурслар бўйича харажатларнинг ўртача қийматидан чекланишини кўриш мумкин.

Жумладан, АТ «Алоқабанк»нинг битта алоҳида олинган «А» филиалида 2021 йил ва 2022 йилда жалб қилинган маблағларнинг номинал қиймати ўзгариш тенденциясини қуйидаги жадвалда кўриш мумкин.

1–жадвал

АТ «Алоқабанк» «А» филиали жалб қилинган маблағларнинг номинал қиймати ²

Кўрсаткич	2021 йил											
Ойлар	I	II	III	IV	V	VI	VI I	VI II	IX	X	XI	XI I
Жалб қилинган маблағларнинг номинал қиймати фоизда (йиллик)	17,5	16,8	16,2	16,5	16,1	16,0	15,8	16,2	16,1	15,9	15,8	15,2
Кўрсаткич	2022 йил											
ойлар	I	II	III	IV	V	VI	VI I	VI II	IX	X	XI	XI I
Жалб қилинган маблағларнинг номинал қиймати фоизда (йиллик)	14,7	14,8	14,6	14,7	14,8	14,6	15,1	15	15,3	14,9	15,4	15,2

² АТИБ «Ипотекабанк»нинг «А» филиали маълумотлари асосида муаллиф томонидан тузилди.

1–жадвал маълумотларидан кўриниб турибдики, филиалда фойдаланилган жалб қилинган маблағларнинг номинал қиймати 20221 йилда камайиш тенденциясига эга бўлиб, маблағларнинг номинал қиймати ойдан ойга камайиб бориб банк харажатларининг камайишига сабаб бўлган.

Фойдаланилган маблағларнинг номинал қиймати жалб қилинган маблағлар бўйича қилинган харажатларни тўлиқлигича ифода қилади деб айтиш қийин. Сабаби бунда, жами жалб қилинган маблағларнинг қанчаси фойдаланилган ва қанчаси фойдаланилмаганлиги ҳақида фикр юритилмайди. Банклар ҳар доим ҳам жалб қилинган маблағларнинг барчасидан фойдаланмайди. Уларнинг маълум бир қисми мажбурий захиралар фондига ажратилади, маълум бир қисми фойдаланмайди. Чунки, банклар фақат даромад олиш учун фаолият олиб бормайди. Улар омонатчиларнинг, мижозларнинг талабларини қондириб, ўз ликвидлилигини сақлаб туриши керак. Шу сабабли, тижорат банклари жалб қилинган ресурсларнинг ўртача реал қийматини ҳисоб–китоб қилиб, унинг ўзгаришини кузатиб боришлари лозим.

Банк жалб қилинган ресурсларининг ўртача реал қийматини (K_r) қуйидагича аниқланиши мумкин:

$$K_r = K_n * \frac{F}{H}^3 \quad (2)$$

бунда: F – таҳлил қилинаётган даврда банк томонидан жалб қилинган маблағлар суммаси; H – ушбу даврда фойдаланилган жалб қилинган маблағларнинг суммаси (активлар суммаси).

Юқорида кўриб ўтилган мисолда АТ «Алоқабанк» А филиалида 2023 йил март ойида фойдаланилган жалб қилинган маблағлар суммаси 2,5 млрд. сўмни (H) ташкил этиб, улар бўйича қилинган харажаталар 0,03125 млрд. сўмни (P) ташкил этган. Банк филиали жами жалб қилинган маблағлар суммаси 2,8 млрд. сўмни (F) ташкил этган. Бунда банкнинг жалб қилинган маблағларнинг номинал қиймати (K_n) 14,7 фоиз бўлади. Актив операцияларни амалга ошириш учун жалб қилинган маблағларнинг реал қиймати (K_r) 16,5 фоизни ташкил этди.

$$K_r = 14,7\% * \frac{2,8}{2,5} = 16,5\%$$

Банк ҳақиқатда фойдаланилган маблағларнинг номинал қиймати паст кўринсада, унинг ҳақиқий қийматини билиш актив операцияларни амалга ошираётганда

³ Финансовый анализ в коммерческом банке/ А.Д. Шеремет, Г.Н. Щербакова. – М.: Финансы и статистика, 2000. – с. 98.

уларга қандай фоиз ставкасини белгилаш мақсадга мувофиқ эканлигини аниқлаш муҳим ҳисобланади.

Умуман олганда, банк жалб қилинган маблағлар бўйича номинал ва реал қиймати ўртасидаги фарқни камайтиришга ҳаракат қилишлари керак.

Фойдаланилган адабиётлар рўйхати

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TA'LIM JARAYONIDA INNOVATSION MASHG'ULOT TURLARI ASOSIDA BILISH FAOLLIGINI SHAKLLANTIRISH

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Annotatsiya

Mazkur maqolada ta'lim jarayonida innovatsion mashg'ulot turlaridan foydalanish orqali o'quvchilarning bilish faolligini shakllantirish masalalari pedagogik va psixologik nuqtayi nazardan tahlil qilinadi. Innovatsion ta'lim jarayonining nazariy asoslari, interfaol mashg'ulotlarning turlari hamda ularning bilish jarayonlariga ta'siri ilmiy manbalar asosida yoritiladi. Tadqiqotda bilish faolligining mohiyati, uning rivojlanish omillari va innovatsion metodlar orqali shakllantirish mexanizmlari ochib beriladi. Shuningdek, muammoli ta'lim, loyihaviy faoliyat, interfaol texnologiyalar va raqamli ta'lim vositalarining ta'lim samaradorligini oshirishdagi o'rni asoslab beriladi. Maqola natijalari ta'lim jarayonida o'quvchilarning mustaqil fikrlashini rivojlantirish, ijodiy faolligini oshirish va ta'lim sifatini yuksaltirishga xizmat qiladi.

Kalit so'zlar: innovatsion mashg'ulotlar, bilish faolligi, interfaol ta'lim, pedagogik texnologiyalar, ta'lim samaradorligi.

Аннотация

В статье анализируются педагогические и психологические аспекты формирования познавательной активности обучающихся на основе инновационных видов учебных занятий. Рассматриваются теоретические основы инновационного обучения, виды интерактивных занятий и их влияние на познавательные процессы. Раскрывается сущность познавательной активности, факторы её развития и механизмы формирования с использованием инновационных методов обучения. Обосновывается роль проблемного обучения, проектной деятельности, интерактивных технологий и цифровых образовательных средств в повышении эффективности образовательного процесса. Результаты исследования направлены на развитие самостоятельного мышления и творческой активности обучающихся.

Ключевые слова: инновационные занятия, познавательная активность, интерактивное обучение, педагогические технологии, эффективность образования.

Annotation

This article analyzes the pedagogical and psychological aspects of developing learners' cognitive activity through innovative types of educational activities. The theoretical foundations of innovative education, types of interactive lessons, and their impact on cognitive processes are examined. The essence of cognitive activity, factors influencing its development, and mechanisms for fostering it through innovative teaching methods are discussed. The role of problem-based learning, project-based activities, interactive technologies, and digital educational tools in enhancing educational effectiveness is substantiated. The findings contribute to fostering independent thinking, creativity, and active learning.

Keywords: innovative learning activities, cognitive activity, interactive learning, pedagogical technologies, educational effectiveness.

KIRISH

Zamonaviy ta'lim tizimida o'quvchilarning bilish faolligini oshirish masalasi muhim pedagogik muammolardan biri hisoblanadi. Jamiyat taraqqiyoti, fan va texnologiyalarning jadal rivoji ta'lim jarayonida passiv bilim berishdan voz kechib, o'quvchini faol bilish subyekti sifatida shakllantirishni talab etmoqda. Shu nuqtayi nazardan ta'lim jarayonida innovatsion mashg'ulot turlaridan foydalanish bilish faolligini rivojlantirishning muhim omiliga aylanmoqda.

An'anaviy ta'lim shakllari ko'pincha o'quvchining faolligini cheklab qo'yadi, bilimlarni tayyor holda qabul qilishga yo'naltiradi. Innovatsion mashg'ulotlar esa o'quvchini mustaqil izlanishga, fikrlashga, muammolarni hal etishga undaydi. Bilish faolligi shaxsning intellektual rivojlanishi, ijodiy salohiyati va o'z-o'zini rivojlantirish ehtiyojining asosiy ko'rsatkichidir.

Mazkur maqolada ta'lim jarayonida innovatsion mashg'ulot turlari orqali bilish faolligini shakllantirishning nazariy va amaliy jihatlarini yoritiladi.

Asosiy qism

Bilish faolligi tushunchasining pedagogik-psixologik mazmuni
Bilish faolligi — bu o'quvchining bilim olish jarayonida ongli, faol va mustaqil ishtirok etish darajasini ifodalovchi sifatdir. Psixologik jihatdan bilish faolligi idrok, xotira, tafakkur va diqqat jarayonlari bilan uzviy bog'liq. Pedagogik nuqtayi nazardan esa u o'quvchining ta'lim jarayoniga bo'lgan munosabati va motivatsiyasini belgilaydi. Olimlarning ta'kidlashicha, bilish faolligi yuqori bo'lgan o'quvchi bilimlarni chuqurroq o'zlashtiradi, ularni amaliy faoliyatda qo'llay oladi va mustaqil fikrlash qobiliyatiga ega bo'ladi.

Innovatsion mashg'ulot tushunchasi va uning ta'limdagi o'rni

Innovatsion mashg'ulotlar — bu an'anaviy dars shakllaridan farqli ravishda, zamonaviy pedagogik texnologiyalar asosida tashkil etilgan, o'quvchining faolligini oshirishga qaratilgan mashg'ulotlardir. Bunday mashg'ulotlarda interfaol metodlar, muammoli vaziyatlar, loyihalar va raqamli vositalar keng qo'llaniladi.

Innovatsion mashg'ulotlar ta'lim jarayonida:

o'quvchilarning bilish qiziqishini oshiradi;

mustaqil va tanqidiy fikrlashni rivojlantiradi;

ijodiy faoliyatni rag'batlantiradi;

ta'lim samaradorligini oshiradi.

Innovatsion mashg'ulot turlarining tasnifi

Pedagogik adabiyotlarda innovatsion mashg'ulotlarning quyidagi turlari keng tarqalgan:

Muammoli mashg'ulotlar – muammo asosida bilim berish;

Loyihaviy mashg'ulotlar – amaliy faoliyatga yo'naltirilgan;

Interfaol mashg'ulotlar – guruhda ishlash, munozara va bahslar;

Raqamli mashg'ulotlar – AKT va onlayn platformalar asosida;

O'yin texnologiyalariga asoslangan mashg'ulotlar.

Har bir tur bilish faolligini oshirishda muhim pedagogik imkoniyatlarga ega.

Muammoli ta'lim asosida bilish faolligini shakllantirish

Muammoli ta'lim o'quvchini tayyor bilimlarni qabul qilishdan ko'ra, muammolarni mustaqil hal etishga undaydi. Muammoli vaziyatlar o'quvchining tafakkur faolligini kuchaytiradi, bilishga bo'lgan ehtiyojni shakllantiradi.

Muammoli mashg'ulotlarda o'quvchi savol qo'yadi, farazlar ilgari suradi va xulosalar chiqaradi. Bu jarayon bilish faolligining rivojlanishiga kuchli turtki beradi.

Loyihaviy faoliyat va bilish faolligi

Loyihaviy mashg'ulotlar o'quvchilarning mustaqil izlanish faoliyatini rivojlantiradi.

Loyiha jarayonida o'quvchi axborot izlaydi, tahlil qiladi, rejalashtiradi va natijani taqdim etadi. Bu esa bilish faolligining barcha komponentlarini faollashtiradi.

Interfaol texnologiyalar va bilish faolligi

Interfaol metodlar (munozara, "aqliy hujum", klaster, konseptual xaritalar) o'quvchilarning faol ishtirokini ta'minlaydi. Bunday mashg'ulotlarda o'quvchi fikr bildiradi, bahs-munozarada qatnashadi va bilimlarni birgalikda yaratadi.

Raqamli ta'lim vositalari asosida bilish faolligini rivojlantirish

Raqamli texnologiyalar ta'lim jarayonini yangi bosqichga olib chiqdi. Onlayn platformalar, multimedia vositalari va virtual laboratoriyalar o'quvchilarning bilish

faolligini oshiradi. Raqamli mashg‘ulotlar individuallashtirilgan ta’limni ta’minlash imkonini beradi.

XULOSA

Xulosa qilib aytganda, ta’lim jarayonida innovatsion mashg‘ulot turlaridan foydalanish o‘quvchilarning bilish faolligini shakllantirishning samarali vositasidir. Innovatsion mashg‘ulotlar o‘quvchilarda mustaqil fikrlash, ijodiy yondashuv va faol bilish qobiliyatlarini rivojlantiradi. Mazkur yondashuv ta’lim sifatini oshirish, shaxsga yo‘naltirilgan va kompetensiyaviy ta’limni amalga oshirishda muhim ahamiyat kasb etadi.

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INTEGRATSIYALASHGAN TA'LIM TUSHUNCHASI VA UNING PEDAGOGIK MOHIYATI

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Annotatsiya

Mazkur maqolada integratsiyalashgan ta'lim tushunchasi, uning nazariy asoslari, pedagogik mohiyati va zamonaviy ta'lim tizimidagi o'rni kompleks tarzda tahlil qilinadi. Integratsiyalashgan ta'limning didaktik, metodik va psixologik jihatlari ochib berilib, fanlararo bog'liqlik asosida o'quvchilarning bilim, ko'nikma va kompetensiyalarini rivojlantirish imkoniyatlari yoritiladi. Tadqiqotda integratsiyaning turlari, bosqichlari hamda ta'lim jarayoniga tatbiq etish mexanizmlari ilmiy manbalar asosida izohlanadi. Shuningdek, integratsiyalashgan ta'limning shaxsga yo'naltirilgan yondashuv, kompetensiyaviy ta'lim va innovatsion pedagogik texnologiyalar bilan uzviy aloqasi asoslab beriladi. Maqola natijalari ta'lim samaradorligini oshirish, o'quvchilarda tizimli fikrlashni shakllantirish va fanlararo bilimlarni mustahkamlashga xizmat qiladi.

Kalit so'zlar: integratsiyalashgan ta'lim, pedagogik mohiyat, fanlararo aloqadorlik, kompetensiyaviy yondashuv, innovatsion ta'lim.

Аннотация

В статье комплексно анализируются понятие интегрированного обучения, его теоретические основы, педагогическая сущность и роль в современной системе образования. Раскрываются дидактические, методические и психологические аспекты интегрированного обучения, а также возможности развития знаний, умений и компетенций обучающихся на основе межпредметных связей. На основе научных источников рассматриваются виды и этапы интеграции, а также механизмы её внедрения в образовательный процесс. Обосновывается взаимосвязь интегрированного обучения с личностно-ориентированным подходом, компетентностным обучением и инновационными педагогическими технологиями. Результаты исследования направлены на повышение эффективности обучения и формирование системного мышления учащихся.

Ключевые слова: интегрированное обучение, педагогическая сущность, межпредметные связи, компетентностный подход, инновационное образование.

Annotation

This article provides a comprehensive analysis of the concept of integrated education, its theoretical foundations, pedagogical essence, and role in the modern educational system. The didactic, methodological, and psychological aspects of integrated education are examined, highlighting its potential to develop learners' knowledge, skills, and competencies through interdisciplinary connections. Based on scholarly sources, the types and stages of integration and mechanisms for its implementation in the educational process are discussed. The relationship between integrated education, learner-centered approaches, competency-based education, and innovative pedagogical technologies is substantiated. The findings contribute to improving educational effectiveness and fostering systemic thinking among learners.

Keywords: integrated education, pedagogical essence, interdisciplinary integration, competency-based approach, innovative education.

KIRISH

Zamonaviy ta'lim tizimi globallashuv, ilm-fan va texnologiyalarning jadal rivojlanishi sharoitida tubdan yangilanmoqda. Jamiyat taraqqiyoti ta'lim oldiga nafaqat bilim berish, balki mustaqil fikrlay oladigan, muammolarni kompleks yondashuv asosida hal eta oladigan, ijodkor va raqobatbardosh shaxsni shakllantirish vazifasini qo'yimoqda. Ushbu jarayonda an'anaviy, fanlar bo'yicha alohida-alohida tashkil etilgan ta'lim modeli o'zining cheklangan jihatlarini namoyon qilmoqda.

Shu sababli ta'lim mazmunini integratsiyalash, ya'ni fanlararo aloqadorlikni kuchaytirish, bilimlarni yagona tizimda shakllantirish masalasi dolzarb ahamiyat kasb etmoqda. Integratsiyalashgan ta'lim o'quvchilarda borliqni yaxlit idrok etish, bilimlarni real hayotiy vaziyatlarda qo'llash hamda tahliliy va tanqidiy fikrlashni rivojlantirishga xizmat qiladi.

Integratsiyalashgan ta'lim tushunchasi pedagogika fanida XX asrning ikkinchi yarmidan boshlab faol o'rganila boshlagan bo'lib, bugungi kunda u kompetensiyaviy yondashuv, STEAM ta'limi, loyihaviy faoliyat va innovatsion texnologiyalar bilan uzviy bog'liq holda rivojlanmoqda. Ushbu maqolada integratsiyalashgan ta'limning nazariy asoslari va pedagogik mohiyati chuqur tahlil qilinadi.

Asosiy qism

Integratsiyalashgan ta'lim tushunchasining mazmuni "Integratsiya" atamasi lotincha *integratio* — "tiklash", "to'ldirish", "yaxlitlash" ma'nolarini anglatadi. Pedagogik nuqtayi nazardan integratsiya turli fanlar, bilim sohalari va ta'lim elementlarining o'zaro uyg'unlashuvi asosida yaxlit ta'lim tizimini yaratishni bildiradi.

Integratsiyalashgan ta'lim — bu o'quvchilarga bilimlarni alohida fanlar kesimida emas, balki o'zaro bog'liq va tizimli holda taqdim etishga qaratilgan ta'lim jarayonidir. Ushbu yondashuvda fanlar o'rtasidagi umumiy tushunchalar, qonuniyatlar va g'oyalar asosiy o'rin egallaydi.

Olimlar integratsiyalashgan ta'limni o'quvchilarning kognitiv faolligini oshiruvchi, bilimlarni chuqur va barqaror o'zlashtirishga xizmat qiluvchi samarali pedagogik model sifatida baholaydilar.

Integratsiyalashgan ta'limning pedagogik mohiyati

Integratsiyalashgan ta'limning pedagogik mohiyati, avvalo, ta'lim mazmunining yaxlitligi va tizimlilikida namoyon bo'ladi. U quyidagi asosiy jihatlar bilan tavsiflanadi:

bilimlarning fanlararo uyg'unligi;

o'quvchilarda kompleks va tizimli fikrlashni shakllantirish;

nazariy bilimlarni amaliy faoliyat bilan bog'lash;

shaxsga yo'naltirilgan va faol ta'limni ta'minlash.

Integratsiya ta'lim jarayonida o'quvchining passiv bilim oluvchidan faol subyektga aylanishiga imkon yaratadi. Bunda o'quvchi bilimlarni tayyor holatda emas, balki muammoli vaziyatlar, loyihalar va izlanishlar orqali egallaydi.

Integratsiyalashgan ta'limning didaktik asoslari

Integratsiyalashgan ta'lim quyidagi didaktik tamoyillarga asoslanadi:

Yaxlitlik tamoyili – bilimlarni yagona tizim sifatida shakllantirish;

Izchillik va uzviylik – fanlararo bog'liqlikni bosqichma-bosqich ta'minlash;

Faollik va mustaqillik – o'quvchilarning bilish faoliyatini rag'batlantirish;

Amaliy yo'naltirilganlik – bilimlarning hayotiy ahamiyatini oshirish.

Mazkur tamoyillar integratsiyalashgan darslarning samaradorligini belgilovchi muhim omillar hisoblanadi.

Integratsiyalashgan ta'lim turlari

Pedagogik adabiyotlarda integratsiyaning bir necha turlari ajratib ko'rsatiladi:

1. **Mavzuli integratsiya** – turli fanlarda bir mavzuning yoritilishi;
2. **Muammoli integratsiya** – umumiy muammo asosida fanlarni birlashtirish;
3. **Kontseptual integratsiya** – umumiy tushunchalar va g'oyalar asosida;
4. **Faoliyatga asoslangan integratsiya** – loyiha, tadqiqot va amaliy mashg'ulotlar orqali.

Har bir integratsiya turi ta'lim maqsadiga ko'ra tanlanadi va qo'llaniladi.

Integratsiyalashgan ta'lim va kompetensiyaviy yondashuv

Kompetensiyaviy yondashuv ta'lim natijasini bilimlar majmui emas, balki ularni amaliy faoliyatda qo'llay olish qobiliyati sifatida talqin etadi. Integratsiyalashgan ta'lim ushbu yondashuvni samarali amalga oshirish imkonini beradi.

Fanlararo integratsiya asosida tashkil etilgan ta'lim o'quvchilarda kommunikativ, axborot bilan ishlash, muammolarni hal etish va ijodiy kompetensiyalarni rivojlantiradi.

Integratsiyalashgan ta'limda innovatsion texnologiyalar

Zamonaviy ta'limda integratsiya quyidagi innovatsion texnologiyalar bilan uyg'unlashadi:

STEAM-ta'lim;

loyihaviy ta'lim;

muammoli o'qitish;

raqamli ta'lim platformalari.

Ushbu texnologiyalar integratsiyalashgan ta'limning amaliy samaradorligini oshiradi.

XULOSA

Xulosa qilib aytganda, integratsiyalashgan ta'lim zamonaviy pedagogikaning muhim yo'nalishlaridan biri bo'lib, u ta'lim mazmunini boyitish, o'quvchilarning bilish faoliyatini faollashtirish va kompetensiyalarni shakllantirishda muhim ahamiyat kasb etadi. Integratsiyalashgan yondashuv ta'lim jarayonini hayot bilan uzviy bog'lab, o'quvchilarda tizimli va ijodiy fikrlashni rivojlantiradi.

Mazkur tadqiqot natijalari integratsiyalashgan ta'limni ta'lim amaliyotiga keng joriy etish zarurligini ko'rsatadi hamda pedagoglar uchun metodik asos bo'lib xizmat qiladi.

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AXBOROT TEXNOLOGIYALARI ASOSIDA TALABALAR BILIMINI BAHOLASHNING ILMIY METODLARINI TAKOMILLASHTIRISH

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Annotatsiya

Mazkur ilmiy maqolada oliy ta'lim muassasalarida talabalar bilimini baholash jarayonini axborot texnologiyalari asosida tashkil etishning nazariy-metodologik asoslari yoritilgan. Talabalar bilimini baholashning an'anaviy va zamonaviy yondashuvlari qiyosiy tahlil qilinib, raqamli baholash vositalari, elektron test tizimlari, masofaviy ta'lim platformalari hamda avtomatlashtirilgan monitoring mexanizmlarining pedagogik imkoniyatlari ochib berilgan. Tadqiqotda axborot texnologiyalariga asoslangan baholash metodlarining obyektivlik, shaffoflik va ishonchlilikni ta'minlashdagi ahamiyati ilmiy asosda tahlil qilinadi. Shuningdek, baholash jarayonida kompetensiyaviy yondashuv, reyting tizimi va diagnostik baholashning o'rni yoritilib, ularni takomillashtirish bo'yicha ilmiy xulosalar ilgari suriladi. Maqola natijalari oliy ta'limda ta'lim sifatini oshirish va baholash tizimini modernizatsiya qilishga xizmat qiladi.

Kalit so'zlar: bilimni baholash, axborot texnologiyalari, elektron testlash, raqamli ta'lim, kompetensiyaviy baholash.

Аннотация

В статье рассматриваются теоретико-методологические основы оценки знаний студентов в высших учебных заведениях на основе информационных технологий. Проведен сравнительный анализ традиционных и современных подходов к оцениванию, раскрыты педагогические возможности цифровых средств оценки, электронных тестовых систем, дистанционных образовательных платформ и автоматизированного мониторинга. Обоснована роль информационных технологий в обеспечении объективности, прозрачности и надежности процесса оценивания. Особое внимание уделяется компетентностному подходу, рейтинговой системе и диагностическому оцениванию. Полученные результаты направлены на совершенствование системы оценки и повышение качества высшего образования.

Ключевые слова: оценка знаний, информационные технологии, электронное тестирование, цифровое образование, компетентностная оценка.

Annotation

This article examines the theoretical and methodological foundations of assessing students' knowledge in higher education based on information technologies. A comparative analysis of traditional and modern assessment approaches is presented, highlighting the pedagogical potential of digital assessment tools, electronic testing systems, distance learning platforms, and automated monitoring mechanisms. The role of information technologies in ensuring objectivity, transparency, and reliability of assessment is substantiated. Particular attention is paid to competency-based assessment, rating systems, and diagnostic evaluation. The findings contribute to improving assessment methods and enhancing the quality of higher education.

Keywords: knowledge assessment, information technologies, electronic testing, digital education, competency-based assessment.

KIRISH

Bugungi kunda oliy ta'lim tizimi jadal raqamlashtirish jarayonini boshdan kechirmoqda. Axborot-kommunikatsiya texnologiyalarining ta'lim jarayoniga keng joriy etilishi nafaqat o'qitish metodlari, balki talabalar bilimini baholash tizimining ham tubdan yangilanishini talab etmoqda. Ta'lim sifatini ta'minlashda baholash jarayoni muhim o'rin tutadi, chunki u o'quv natijalarini aniqlash, tahlil qilish va ta'lim jarayonini takomillashtirish uchun asos bo'lib xizmat qiladi.

An'anaviy baholash tizimlarida subyektivlik, vaqt va resurslarning ko'p sarflanishi, shaffoflikning yetishmasligi kabi muammolar mavjud. Shu bois axborot texnologiyalariga asoslangan baholash metodlarini joriy etish ta'lim tizimi oldida turgan dolzarb vazifalardan biridir. Raqamli baholash tizimlari orqali talabalar bilimini tezkor, aniq va ishonchli aniqlash imkoniyati yuzaga keladi.

Mazkur maqolada axborot texnologiyalari asosida talabalar bilimini baholashning ilmiy metodlarini takomillashtirish masalalari pedagogik va metodik nuqtayi nazardan yoritiladi.

Asosiy qism

Talabalar bilimini baholash tushunchasi va uning pedagogik mohiyati

Baholash — bu ta'lim jarayonining ajralmas tarkibiy qismi bo'lib, o'quvchilarning bilim, ko'nikma va kompetensiyalarini aniqlash, tahlil qilish hamda baholashga qaratilgan pedagogik jarayondir. Oliy ta'limda baholash nafaqat nazorat vositasi, balki ta'limni boshqarish mexanizmi sifatida ham namoyon bo'ladi.

Pedagogik nuqtayi nazardan baholash quyidagi funksiyalarni bajaradi: nazorat, diagnostika, rag'batlantirish, rivojlantirish va teskari aloqa. Zamonaviy ta'limda ushbu

funksiyalarni samarali amalga oshirish axborot texnologiyalaridan foydalanishni taqozo etadi.

An'anaviy va axborot texnologiyalariga asoslangan baholashning qiyosiy tahlili

An'anaviy baholash shakllari (yozma va og'zaki imtihonlar, nazorat ishlari) ko'pincha vaqt talab etadi va subyektiv omillarga bog'liq bo'ladi. Axborot texnologiyalariga asoslangan baholash esa avtomatlashtirilgan jarayon bo'lib, natijalarning aniqligi va tezkorligini ta'minlaydi.

Elektron baholash tizimlari quyidagi afzalliklarga ega:

obyektivlik va shaffoflik;

tezkor tahlil va natijalarni chiqarish;

individual yondashuv imkoniyati;

katta hajmdagi ma'lumotlarni qayta ishlash.

Elektron testlash tizimlari va ularning ilmiy-metodik asoslari

Elektron testlash talabalar bilimni baholashning eng keng tarqalgan raqamli shakllaridan biridir. Test topshiriqlari turli murakkablik darajasida ishlab chiqilib, bilimning chuqurligi va tizimlilikini aniqlashga xizmat qiladi.

Ilmiy-metodik jihatdan testlash quyidagi talablarga javob berishi zarur:

ishonchlilik;

validlik;

 differensiallik;

diagnostik yo'naltirilganlik.

Axborot texnologiyalari yordamida adaptiv testlash tizimlarini joriy etish talabalar bilim darajasiga mos savollarni avtomatik tanlash imkonini beradi.

Masofaviy ta'lim platformalarida baholash metodlari

Masofaviy ta'lim sharoitida baholash jarayoni maxsus elektron platformalar orqali amalga oshiriladi. Moodle, Google Classroom, Microsoft Teams kabi tizimlar test, topshiriq, loyiha va forumlar orqali baholash imkonini beradi.

Masofaviy baholashda akademik halollikni ta'minlash muhim masala bo'lib, proktorlik tizimlari, vaqt cheklovlari va avtomatik tekshiruv mexanizmlari keng qo'llaniladi.

Kompetensiyaviy yondashuv asosida raqamli baholash

Kompetensiyaviy yondashuv talabalar bilimni amaliy faoliyatda qo'llay olish darajasini baholashni nazarda tutadi. Axborot texnologiyalari asosida loyiha ishlari, elektron portfellar va amaliy topshiriqlarni baholash imkoniyati kengaymoqda.

Elektron portfel talabaning individual rivojlanish trayektoriyasini aks ettirib, uning bilim va ko'nikmalarini kompleks baholashga xizmat qiladi.

Baholash natijalarini monitoring qilish va tahlil etish

Axborot texnologiyalari baholash natijalarini statistik tahlil qilish, reytinglar tuzish va ta'lim sifatini monitoring qilish imkonini beradi. Ma'lumotlar bazalari asosida talabalar o'zlashtirish darajasi, muammoli mavzular va rivojlanish dinamikasi aniqlanadi.

Talabalar bilimini baholash metodlarini takomillashtirish yo'llari

Baholash metodlarini takomillashtirish quyidagi yo'nalishlarda amalga oshiriladi:

adaptiv va diagnostik baholash tizimlarini joriy etish;

sun'iy intellekt asosidagi baholash vositalaridan foydalanish;

formativ baholashni kengaytirish;

raqamli kompetensiyalarni hisobga olgan baholash mezonlarini ishlab chiqish.

Xulosa

Xulosa qilib aytganda, axborot texnologiyalari asosida talabalar bilimini baholashning ilmiy metodlarini takomillashtirish oliy ta'lim tizimini modernizatsiya qilishning muhim yo'nalishidir. Raqamli baholash tizimlari ta'lim jarayonining sifatini oshirish, baholashning obyektivligi va ishonchliligini ta'minlash imkonini beradi. Mazkur yondashuv talabalar bilimini chuqur tahlil qilish, ularning kompetensiyalarini rivojlantirish va ta'lim natijalarini samarali boshqarishga xizmat qiladi.

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DIFFERENSIAL YONDASHUV TUSHUNCHASINING PEDAGOGIK- PSIXOLOGIK MAZMUNI VA UNING ILMIY TALQINI

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Annotatsiya

Mazkur maqolada differensial yondashuv tushunchasining pedagogik va psixologik mazmuni, uning shakllanish bosqichlari hamda zamonaviy ta'lim tizimidagi ilmiy talqini chuqur tahlil qilinadi. Differensial yondashuvning ta'lim samaradorligini oshirishdagi o'rni, o'quvchilarning individual-psixologik xususiyatlarini hisobga olishdagi ahamiyati ilmiy manbalar asosida asoslab beriladi. Tadqiqot jarayonida differensial yondashuvning didaktik tamoyillari, turlari va amalga oshirish mexanizmlari pedagogik-psixologik nuqtayi nazardan yoritilgan. Shuningdek, mazkur yondashuvning shaxsga yo'naltirilgan ta'lim, kompetensiyaviy yondashuv hamda inkluziv ta'lim bilan uzviy aloqasi ochib beriladi. Maqola natijalari differensial yondashuvni ta'lim amaliyotida samarali qo'llash bo'yicha ilmiy xulosalar chiqarishga xizmat qiladi.

Kalit so'zlar: differensial yondashuv, individual ta'lim, pedagogik psixologiya, shaxsga yo'naltirilgan ta'lim, ta'lim samaradorligi.

Аннотация

В статье проводится всесторонний анализ педагогико-психологического содержания понятия дифференцированного подхода и его научной интерпретации в современной образовательной системе. Раскрывается роль дифференцированного подхода в повышении эффективности обучения и учёте индивидуально-психологических особенностей обучающихся. На основе научных источников рассматриваются дидактические принципы, виды и механизмы реализации дифференцированного обучения. Обосновывается взаимосвязь дифференцированного подхода с личностно-ориентированным, компетентностным и инклюзивным образованием. Полученные выводы имеют теоретическое и практическое значение для педагогической деятельности.

Ключевые слова: дифференцированный подход, индивидуальное обучение, педагогическая психология, личностно-ориентированное образование, эффективность обучения.

Annotation

This article provides an in-depth analysis of the pedagogical and psychological essence of the differentiated approach and its scientific interpretation in modern education. The role of differentiated instruction in improving learning effectiveness and considering learners' individual psychological characteristics is substantiated through scholarly sources. The didactic principles, types, and implementation mechanisms of differentiated education are examined from pedagogical and psychological perspectives. The interrelation of differentiated approach with learner-centered education, competency-based learning, and inclusive education is also discussed. The findings contribute to the theoretical and practical development of differentiated teaching strategies.

Keywords: differentiated approach, individual learning, educational psychology, learner-centered education, learning effectiveness.

KIRISH

Zamonaviy ta'lim tizimi shaxs rivojini markazga qo'ygan holda tashkil etilishini talab etmoqda. Jamiyatning ijtimoiy-iqtisodiy taraqqiyoti, fan va texnologiyalarning jadal rivoji ta'lim jarayonida har bir o'quvchining individual imkoniyatlari, qobiliyatlari va ehtiyojlarini hisobga olishni taqozo etadi. Shu nuqtayi nazardan differensial yondashuv bugungi ta'lim tizimining eng muhim pedagogik strategiyalaridan biri sifatida namoyon bo'lmoqda.

An'anaviy ta'lim modeli barcha o'quvchilarga bir xil talab va usullarni qo'llashga asoslangan bo'lib, bu yondashuv o'quvchilarning individual farqlarini yetarli darajada inobatga olmaydi. Natijada ba'zi o'quvchilarda o'zlashtirish darajasi pasayadi, motivatsiya susayadi va ta'lim samaradorligi kutilgan natijani bermaydi. Differensial yondashuv esa ta'lim jarayonini o'quvchilarning yosh, qobiliyat, bilish darajasi, psixologik xususiyatlari va qiziqishlariga mos ravishda tashkil etishga imkon beradi. Differensial yondashuv tushunchasi pedagogika va psixologiya fanlarining uzviy bog'liqligi mahsuli bo'lib, u ta'lim jarayonini individuallashtirishning muhim shakli hisoblanadi. Mazkur maqolada differensial yondashuvning pedagogik-psixologik mazmuni, uning ilmiy talqini va ta'lim amaliyotidagi ahamiyati keng yoritiladi.

Asosiy qism

Differensial yondashuv tushunchasining ilmiy asoslari

“Differensial” atamasi lotincha *differentia* — “farq”, “tafovut” ma'nolarini anglatadi. Pedagogik jihatdan differensial yondashuv o'quvchilarning individual farqlarini hisobga olgan holda ta'lim jarayonini tashkil etish demakdir. Ushbu yondashuvda

o'quvchilarning bilim darajasi, qobiliyati, o'rganish sur'ati va psixologik xususiyatlari muhim omil sifatida qaraladi.

Ilmiy adabiyotlarda differensial yondashuv ko'pincha individuallashtirilgan ta'lim bilan uyg'un holda talqin qilinadi. Biroq differensial yondashuv individual ta'limdan farqli ravishda o'quvchilarni guruhlash asosida amalga oshiriladi. Ya'ni o'quvchilar o'xshash xususiyatlariga ko'ra ma'lum guruhlariga ajratiladi va ularga mos metodlar qo'llaniladi.

Differensial yondashuvning pedagogik mazmuni

Pedagogik nuqtayi nazardan differensial yondashuv ta'lim mazmuni, metodlari, shakllari va vositalarini moslashtirish orqali ta'lim samaradorligini oshirishga qaratilgan. Bu yondashuv quyidagi asosiy jihatlar bilan tavsiflanadi:

o'quvchilarning bilim darajasini hisobga olish;

o'quv materialining murakkablik darajasini moslashtirish;

o'qitish sur'atini individual imkoniyatlarga moslashtirish;

mustaqil va ijodiy faoliyatni rag'batlantirish.

Differensial yondashuv pedagogik jarayonda o'qituvchidan yuqori metodik tayyorgarlik va moslashuvchanlikni talab etadi. O'qituvchi har bir o'quvchining ta'lim ehtiyojlarini tahlil qilgan holda ta'lim strategiyasini belgilaydi.

Differensial yondashuvning psixologik mazmuni

Psixologik jihatdan differensial yondashuv o'quvchilarning individual-psixologik xususiyatlarini hisobga olishga asoslanadi. Bular jumlasiga temperament, xarakter, bilish jarayonlari (idrok, xotira, tafakkur), motivatsiya va emotsional holat kiradi.

Psixolog olimlarning ta'kidlashicha, har bir o'quvchi axborotni qabul qilish va qayta ishlashda o'ziga xos xususiyatlarga ega. Differensial yondashuv ushbu xususiyatlarni hisobga olib, o'quvchining psixologik qulayligini ta'minlaydi. Natijada o'quvchi o'z imkoniyatlariga mos sharoitda bilim oladi va o'z-o'ziga bo'lgan ishonchi ortadi.

Differensial yondashuvning didaktik tamoyillari

Differensial yondashuv quyidagi didaktik tamoyillarga tayanadi:

Individuallik tamoyili – har bir o'quvchining shaxsiy xususiyatlarini hisobga olish;

Moslashuvchanlik tamoyili – ta'lim jarayonini o'zgaruvchan sharoitlarga moslashtirish;

Faollik tamoyili – o'quvchilarning bilish faoliyatini rag'batlantirish;

Rag'batlantirish tamoyili – motivatsiyani kuchaytirish.

Mazkur tamoyillar differensial yondashuvning samarali amalga oshirilishini ta'minlaydi.

Differensial yondashuvning turlari

Pedagogik amaliyotda differensial yondashuvning bir necha turlari ajratiladi:

1. Darajaviy differensiallash – bilim darajasiga ko‘ra;
2. Qobiliyatga ko‘ra differensiallash – iqtidor va moyillik asosida;
3. Qiziqishga ko‘ra differensiallash – o‘quvchilarning ehtiyojlari asosida;
4. Psixologik xususiyatlarga ko‘ra differensiallash.

Har bir tur ta’lim jarayonining maqsadiga mos ravishda qo‘llaniladi.

Differensial yondashuv va zamonaviy ta’lim konsepsiyalari

Bugungi kunda differensial yondashuv shaxsga yo‘naltirilgan ta’lim, kompetensiyaviy yondashuv va inkluziv ta’lim bilan uzviy bog‘liq holda rivojlanmoqda. Ushbu yondashuvlar ta’limning insonparvarlik xarakterini kuchaytiradi va har bir o‘quvchining rivojlanishini ta’minlaydi.

Xulosa

Xulosa qilib aytganda, differensial yondashuv ta’lim jarayonida o‘quvchilarning individual-psixologik xususiyatlarini hisobga olishga asoslangan muhim pedagogik strategiyadir. Ushbu yondashuv ta’lim samaradorligini oshirish, o‘quvchilarning motivatsiyasini kuchaytirish va shaxsiy rivojlanishini ta’minlashda katta ahamiyatga ega. Differensial yondashuvning ilmiy talqini pedagogika va psixologiya fanlarining integratsiyasi asosida shakllanib, zamonaviy ta’limning ustuvor yo‘nalishlaridan biri sifatida namoyon bo‘lmoqda.

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LIFE FORM OF TUBERCULOSIS PATHOGEN AND ITS TOXIC EFFECTS ON THE ORGANISM

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Relevance:

Tuberculosis (TB) remains a global health problem due to its high infectivity, high mortality rates, and the complexity of its treatment. It spreads through airborne droplets and affects not only the lungs but also other organs. The disease causes more than 1.6 million deaths annually and requires a specialized drug course lasting several months for treatment. According to the World Health Organization (WHO), millions of new cases of tuberculosis are recorded worldwide every year.

Objective:

The objective of this scientific work is to analyze the life form of the tuberculosis pathogen and its toxic effects on the organism.

Materials and Methods:

During the analysis, articles and statistical data (2020–2025) from leading scientific databases such as WHO, CDC (USA), UpToDate, PubMed, Elsevier, and Scopus were studied.

Results:

The results of our research show that *Mycobacterium tuberculosis* is acid-fast due to the presence of mycolic and other fatty acids, as well as phosphatides, and because its composition is rich in oily lipids and waxy substances. It grows well in aerobic conditions on special nutrient media. At an optimal growth temperature of 37°C, it can grow within 20-30 days.

The tuberculosis bacterium manifests its pathogenicity through toxic enzymes such as lecithinase, catalase, urease, and peroxidase. The enzyme **lecithinase** breaks down cell membranes and helps the bacteria escape from macrophages. If macrophages engulf

the tuberculosis bacterium into a phagosome, it dissolves the phagosome membrane and escapes into the cytoplasm.

Through the **urease** enzyme, it protects itself from acidic environments. Specifically, when macrophages swallow the bacterium and create an acidic environment to dissolve it, urease breaks down urea into ammonia (NH_3) and carbon dioxide (CO_2). The ammonia neutralizes the acidic environment created by the macrophage, allowing the bacterium to survive.

Together with **catalase** and **peroxidase** enzymes, it breaks down "free radicals" and hydrogen peroxide (H_2O_2) released by the immune system into oxygen (O_2) and water (H_2O).

Conclusion:

The results obtained show that the tuberculosis pathogen attempts to maintain its viability and reproductive functions by bypassing the immune system and demonstrating strong resistance.

**FROM MODERNISM TO POSTMODERNISM: LITERARY
FRAGMENTATION AND THE CRISIS OF MEANING IN TWENTIETH-
CENTURY LITERATURE.**

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Abstract. Postmodernism cannot be fully understood without a solid understanding of modernism, particularly its development in literature. Modernism emerged in the early twentieth century and gained significant influence after the First World War, reflecting the rapid social, technological, and industrial changes of the time. Modernist writers grappled with a fragmented and unstable world in which traditional values and predictable structures had collapsed. As a result, modernist literary works often expressed feelings of alienation, despair, and absurdity, while simultaneously seeking to restore meaning to human existence. These works were frequently characterized by fragmented narratives, incoherent meanings, and a crisis of personal identity. An additional and significant aspect of modernism is its ambiguous relationship with colonialism.

Introduction. In literary studies, postmodernism is often approached as a reaction against modernism; therefore, a comprehensive understanding of postmodernism requires prior knowledge of modernist literature. Modernism developed as a literary and artistic movement in the early twentieth century and became especially influential in the aftermath of the First World War. This period was marked by rapid industrialization, urbanization, and social transformation, which disrupted long-standing cultural norms and systems of meaning.

Main body. Modernist writers sought to represent a world that had become unstable and fragmented. The sense of certainty that once defined human experience was replaced by feelings of disillusionment, anxiety, and meaninglessness. Consequently, modernist literature often portrays psychological depth, inner conflict, and a profound struggle to rediscover meaning in an increasingly chaotic world. Fragmentation, narrative discontinuity, and the loss of a coherent personal identity are among the defining characteristics of modernist texts. Another important dimension of modernism is its complex and often controversial engagement with colonialism. While some

modernist works appear to expose the moral ambiguities of imperial expansion, modernism has been criticized for not fully questioning colonial power structures. Instead, colonialism was sometimes portrayed as a force that contributed to Europe's sense of order and stability. Modernism continued to dominate literary discourse until the end of the Second World War, when postmodernism began to emerge, challenging modernist ideals of coherence, meaning, and authority. Understanding these modernist foundations is essential for analyzing the philosophical and aesthetic shifts that define postmodern literature. Although modernist texts, such as Joseph Conrad's *Heart of Darkness*, sometimes questioned colonial practices, modernism has been criticized for failing to fundamentally challenge colonial ideologies and for implicitly supporting Europe's stabilizing self-image. Modernism remained dominant until the end of the Second World War, after which postmodernism began to emerge as a response to and critique of modernist assumptions. This thesis examines modernism as a necessary foundation for understanding the development and characteristics of postmodernism. After the modernist movement of the twentieth century, a new era emerged in American poetry namely, postmodernism, a radical and revolutionary movement grounded in the principles of deconstruction and decentering. Deconstruction involves the complete rejection of established structures and meanings in order to create new ones, while decentering refers to the dispersion of fixed or stable meanings within any given phenomenon. In postmodern thought, the center of any system is considered fictional; centralized authority is dismantled, and meaning becomes dependent on multiple, shifting factors rather than a single dominant source.

A postmodern interpretation is unlikely to lead to a unified or elevated poetic worldview. As noted by Ulugbek Hamdam, postmodernism follows modernism (with "post" meaning "after") and represents an extremely complex and multifaceted literary phenomenon. Although it is referred to as a literary movement, postmodernism like modernism has deeply influenced human consciousness and worldview, making it a broad, contradictory, and unresolved phenomenon. Critical perspectives on postmodernism remain incomplete because the movement itself is still ongoing. It is often argued that wherever chaos exists, postmodernism is also present and chaos, in the contemporary world, is pervasive.

Postmodern literary works are highly diverse and may differ significantly in terms of plot structure, national origin, and genre. Literary critics frequently disagree on which works should be classified as postmodern. Despite these differences, several texts are commonly cited as representative examples of postmodern literature. These include *Infinite Jest* by David Foster Wallace, *Catch-22* by Joseph Heller, *The Blind Assassin*

by Margaret Atwood, *Slaughterhouse-Five* by Kurt Vonnegut, *If on a Winter's Night a Traveler* by Italo Calvino, *American Psycho* by Bret Easton Ellis, *One Hundred Years of Solitude* by Gabriel García Márquez, and Samuel Beckett's *Waiting for Godot*.

Conclusion. Postmodern literature represents a distinctive literary mode characterized by stylistic and ideological fragmentation, paradox, and a deliberate rejection of traditional narrative conventions. It frequently employs unreliable narrators, unrealistic or entirely impossible plots, and relies on techniques such as playfulness, parody, paranoia, and black humor to challenge established literary norms. Central to postmodern writing is the emphasis on authorial self-awareness and experimentation, which destabilizes the boundaries between fiction and reality.

Rather than offering fixed or singular meanings, postmodern authors intentionally resist direct interpretation. Their novels, short stories, and poems often present multiple, competing meaning or, in some cases, celebrate the absence of meaning altogether. Through this rejection of narrative certainty and interpretive closure, postmodern literature invites readers to actively participate in the construction of meaning. Ultimately, postmodernism reshapes literary discourse by questioning authority, coherence, and truth, reflecting the complexity and ambiguity of contemporary human experience.

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THE ROLE OF THE TECHNOLOGICAL REVOLUTION IN THE ECONOMY OF THE REPUBLIC OF UZBEKISTAN OVER THE PAST 9 YEARS

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Abstract. This research examines the role of the technological revolution in shaping the economy of the Republic of Uzbekistan over the past nine years. Particular attention is given to the “Digital Uzbekistan–2030” strategy and its role in expanding e-government services, digital payment systems, and information and communication technologies. The study shows that the introduction of modern technologies has contributed to improving productivity, increasing transparency in public services, and creating new business opportunities. At the same time, certain challenges remain, including the need for qualified specialists, development of digital infrastructure, and reduction of the digital gap between regions.

Keywords: revolution, economy, Uzbekistan, digital transformation,, strategy, productivity, e-government, human capital, ICT

Introduction. The digital economy has become an essential pillar of modern economic development, influencing competitiveness at national, regional, and global levels. Advances in information and communication technologies (ICT), artificial intelligence, and automation are transforming production structures, business models, and labor markets. In Uzbekistan, the government has declared digitalization a national priority, reflected in strategic documents such as the “Digital Uzbekistan 2030” program, which envisions the integration of digital technologies into all key sectors of the economy. These initiatives are aimed at increasing productivity, reducing transaction costs, and fostering innovation-led growth, thereby strengthening the country’s position in global competitiveness rankings.¹

Main part. As part of the construction and development of New Uzbekistan, several significant strategic documents have been adopted, including the Digital Uzbekistan –

¹ Abdurakhmanov A. X. U. ugli & Bekimbetova G. M. *Digital Transformation and Its Role in Boosting Economic Competitiveness of Uzbekistan*, Ta’lim, Tarbiya va Innovatsiyalar Jurnal, Vol. 1, No. 8, 2025, pp.

2030 Strategy, the Development Strategy of New Uzbekistan for 2022–2026, and the Uzbekistan – 2030 Strategy, which delineate the goals and objectives pertaining to the digital transformation of all regions and sectors. These documents also emphasize the extensive adoption of digital technologies, further enhancement of digital infrastructure, and the aim to place Uzbekistan among the top 30 countries globally in terms of e-government development by 2030, positioning the country as a regional IT hub. Uzbekistan's digital economy shows promising growth, driven by strategic government policies and public– private collaboration. However, sustained progress demands continued investment in rural ICT infrastructure, capacity building in cybersecurity, and the enhancement of digital literacy. The effective integration of these elements will determine the success of the Digital Uzbekistan – 2030 vision. International cooperation, education reform, and inclusive initiatives will be pivotal to ensuring that the benefits of digital transformation are distributed equitably across the country.²

In modern conditions, the development of the regional economy is a complex and multidimensional process that includes not only economic growth, but also social cohesion, environmental sustainability, and digital transformation. In a period of increasing volatility in the global economy, regions face the necessity of strengthening their economic independence, integrating into global value chains, and efficiently managing local resources.

In the context of Uzbekistan, regional development is entering a new qualitative stage. President Shavkat Mirziyoyev's strategic statement that "each region should have its own unique model of economic and social development" has laid the foundation for differentiated regional growth. This approach not only aims to reduce disparities between regions, but also creates opportunities to fully unlock the specific potential of each territory.³

Uzbekistan has experienced a revolution in the development of information technology over the past four years, which has helped to accelerate the process of digitalization in many sectors of the economy and increase the proportion of the economy that is referred to as "digital". E-commerce, the Electronic Government system, the integration of smart technology into various service industries, the establishment of Smart Cities and Safe Cities systems, among other things, are frequently included in the list of the digital economy's constituent parts. Various metrics

² Bo'riyev J., Ro'zmatov A., Safarov H., & Toirova M. (2025). *The digital economy in Uzbekistan: challenges and opportunities. Green Economy and Development, Vol.*, 2025.

³ Kurbonova, K. I. & Norova, S. Y. (2025). *Mintaqa iqtisodiyotini rivojlantirishning zamonaviy tendensiyalari. Science and Education*, 6(12), 835–843

are typically used to measure the growth of the digital economy in a nation, which is closely tied to the ICT (information and communication technologies) level of development. The size of investments made in the ICT sector, the speed of the Internet, its coverage of the nation's territory and accessibility for use by the population are some examples of these indicators. Others include the degree to which e-commerce has developed, the proportion of public services included in the e-government system, the availability of organizations with ICT experts, and others. Indicators that measure the advancement of information technologies are also crucial.⁴

The purpose of this study is to comprehensively examine modern trends in regional economic development, analyze their theoretical foundations, and identify the possibilities for their application in Uzbekistan. The article explores the interrelationship between digital transformation, green economy, innovative clustering, human capital development, and interregional integration, as well as their impact on regional development.

Conclusion. Based on recent economic indicators and policy analysis, the thesis concludes that technological transformation has become one of the key factors supporting sustainable economic growth and strengthening Uzbekistan's position in the global economic environment. In recent years, the digital economy in Uzbekistan has been developing at a rapid pace. The transition of public services to online platforms, the expansion of mobile payment systems, and the growing opportunities to conduct business via the Internet have significantly transformed the country's economic landscape. In addition, the introduction of artificial intelligence into everyday life has positively influenced the technological literacy of the population in many aspects. The development of digital infrastructure, startups, and innovations, as well as the increasing digitalization of agriculture, can be considered clear examples of the growth of the digital economy.

At the same time, it is important to acknowledge several existing challenges, such as low public trust in technology, cybersecurity risks, market and regulatory issues, and concerns related to technological security. Nevertheless, over the past nine years, solutions have been found to address many of these problems, and further measures are being implemented to continue improving and strengthening the digital economy of Uzbekistan in the coming years.

⁴ Rakhmatullaeva, D. O. (2023). *Analysis of digitalization of the economy of the Republic of Uzbekistan. Economic Studies Journal*, 12(3), 45–53.

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MECHANISMS OF ENDOTHELIAL DYSFUNCTION IN RENAL VESSELS INDUCED BY ELEVATED URIC ACID LEVELS

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Abstract: Elevated uric acid is a significant contributor to endothelial dysfunction in renal vessels. High uric acid levels increase oxidative stress, reduce nitric oxide availability, and activate pro-inflammatory pathways, leading to impaired renal perfusion, glomerular injury, and hypertension. Understanding these mechanisms is essential for developing targeted interventions to prevent or mitigate renal and cardiovascular complications associated with hyperuricemia. This study reviews recent findings on molecular pathways and clinical implications of uric acid-induced endothelial dysfunction in renal vasculature.

Keywords: Uric acid, Endothelial dysfunction, Renal vessels, Oxidative stress, Nitric oxide, Inflammation, Hyperuricemia

INTRODUCTION

The endothelium is a critical layer lining the inner surface of blood vessels, responsible for regulating vascular tone, blood flow, and various biochemical processes, including coagulation, inflammation, and oxidative balance. When endothelial function is impaired, a condition known as endothelial dysfunction occurs, contributing to the development of multiple diseases such as hypertension, atherosclerosis, and kidney disorders. Recent research highlights elevated uric acid levels as an important factor in the pathogenesis of endothelial dysfunction. Uric acid, a product of purine metabolism, can accumulate excessively, causing hyperuricemia. High uric acid levels affect endothelial cells not only in crystal form, as in gout, but also in soluble form by increasing oxidative stress, reducing nitric oxide production, and activating pro-inflammatory pathways. These processes lead to structural and functional alterations in renal vasculature, impair glomerular filtration, and may promote renal hypertension. Moreover, uric acid influences intracellular signaling pathways, further mediating

endothelial dysfunction at the molecular level. This study aims to examine the mechanisms through which elevated uric acid induces endothelial dysfunction in renal vessels, focusing on molecular pathways and potential clinical consequences.

Main part

Elevated uric acid levels directly affect glomerular and peritubular capillaries, exerting both structural and functional toxicity. Soluble uric acid promotes oxidative stress within endothelial cells, impairing the production of nitric oxide (NO), a key vasodilator. Simultaneously, uric acid enhances the release of vasoconstrictor mediators such as endothelin-1, leading to increased vascular resistance and reduced renal perfusion. At the cellular level, uric acid activates intracellular signaling pathways, including mitogen-activated protein kinase (MAPK) and nuclear factor kappa B (NF- κ B), which induce pro-inflammatory gene expression. This contributes to leukocyte adhesion and low-grade vascular inflammation. In addition, elevated uric acid can impair mitochondrial function, promoting reactive oxygen species (ROS) generation and endothelial apoptosis. Clinically, these changes are associated with glomerular injury, tubulointerstitial fibrosis, and the development of hypertension. The imbalance between vasodilatory and vasoconstrictive factors results in persistent microvascular dysfunction. Overall, hyperuricemia creates a pro-oxidative, pro-inflammatory, and pro-apoptotic environment in renal endothelial cells, establishing the foundation for progressive renal damage and cardiovascular complications.

Endothelial dysfunction induced by uric acid is mediated by several molecular signaling pathways. Activation of MAPK and NF- κ B pathways increases the transcription of pro-inflammatory cytokines and adhesion molecules, including interleukin-1 β , tumor necrosis factor-alpha (TNF- α), vascular cell adhesion molecule-1 (VCAM-1), and intercellular adhesion molecule-1 (ICAM-1). These changes promote leukocyte recruitment and sustained vascular inflammation. At the same time, uric acid inhibits the phosphoinositide 3-kinase/protein kinase B (PI3K/Akt) pathway, reducing endothelial nitric oxide synthase (eNOS) activity and NO production. Reduced NO bioavailability compromises vasodilation and antithrombotic functions. Excess ROS production caused by uric acid further damages cell membranes, lipids, and proteins, leading to oxidative stress. Inflammasome activation, particularly NLRP3, amplifies cytokine release and endothelial injury. Collectively, these mechanisms establish a feedback loop, where inflammation, oxidative stress, and impaired NO signaling perpetuate endothelial dysfunction. Understanding these molecular processes is essential for developing targeted therapies to prevent or reverse renal vascular damage associated with hyperuricemia.

Endothelial dysfunction in renal vessels due to elevated uric acid manifests clinically as increased vascular resistance, reduced glomerular filtration, and renal hypertension. These changes contribute to the progression of chronic kidney disease and are often associated with cardiovascular comorbidities. Therapeutic strategies focus on lowering uric acid levels using agents such as allopurinol or febuxostat, which can reduce oxidative stress and improve endothelial function. Antihypertensive medications, particularly those that enhance NO bioavailability, are also beneficial in restoring vascular homeostasis. Additionally, anti-inflammatory and antioxidant interventions may help mitigate endothelial injury. Monitoring biomarkers of endothelial dysfunction, oxidative stress, and uric acid levels allows for personalized treatment planning. Future research should aim to clarify the complex interaction between uric acid, intracellular signaling pathways, and renal vascular pathology, thereby facilitating the development of novel pharmacological approaches. Overall, early recognition and management of hyperuricemia are critical in preventing progressive renal damage and improving patient outcomes.

Conclusion

Elevated uric acid contributes significantly to endothelial dysfunction in renal vessels. It promotes oxidative stress, reduces nitric oxide availability, and activates inflammatory pathways, leading to impaired renal blood flow and vascular damage. These changes increase the risk of hypertension and chronic kidney disease. Controlling uric acid levels and supporting endothelial function are essential to prevent renal and cardiovascular complications. Early intervention may improve vascular health and reduce disease progression.

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RISK FACTORS FOR CHRONIC KIDNEY DISEASE

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Abstract: Chronic kidney disease (CKD) is a progressive condition that significantly impacts global health, leading to increased morbidity and mortality. The development of CKD is influenced by a combination of medical, lifestyle, and socio-demographic factors. Key medical risks include diabetes mellitus, hypertension, obesity, genetic predisposition, and chronic inflammatory processes. Lifestyle factors such as poor nutrition, physical inactivity, smoking, and exposure to environmental toxins further contribute to kidney damage. Socio-demographic variables, including age, gender, education, and socioeconomic status, affect disease prevalence and progression. Early identification and management of these risk factors are crucial for preventing CKD progression, reducing complications, and improving patients' quality of life. This review emphasizes the importance of a comprehensive approach to CKD risk assessment and prevention strategies.

Keywords: Chronic kidney disease, risk factors, diabetes, hypertension, obesity, lifestyle, socio-demographic.

Introduction

Chronic kidney disease (CKD) is a global health problem characterized by progressive loss of kidney function and a high risk of cardiovascular complications. The prevalence of CKD is increasing worldwide, driven by the rising number of patients with diabetes mellitus and arterial hypertension, as well as changes in lifestyle, adverse environmental conditions, and population aging. Numerous studies indicate that CKD development is influenced by a complex interplay of medical, social, and environmental factors, including genetic predisposition, obesity, chronic inflammatory processes, poor nutrition, smoking, and stress. Early identification and management of these risk factors are essential for preventing disease progression, reducing the incidence of complications, and improving patients' quality of life. Therefore,

investigating the risk factors for CKD is a relevant priority in modern nephrology and an important aspect of preventive medicine.

Main part

Chronic kidney disease often develops under the influence of a combination of several medical conditions. One of the key factors is diabetes mellitus, which through hyperglycemia damages glomeruli and impairs the kidney's filtration function. Arterial hypertension also plays a significant role, contributing to increased pressure in renal vessels and the development of glomerulosclerosis. Obesity, especially abdominal, is associated with metabolic syndrome and lipid metabolism disorders, accelerating CKD progression. Chronic inflammatory processes, autoimmune diseases, and hereditary predisposition further increase the risk of kidney tissue damage. Long-term use of nephrotoxic drugs, including nonsteroidal anti-inflammatory drugs, is also considered a significant factor. Additionally, electrolyte imbalances, anemia, and disturbances in uric acid metabolism contribute to further kidney dysfunction. Timely diagnosis of these factors allows slowing the progression of CKD and preventing cardiovascular complications. Regular nephrological monitoring and biochemical control of blood indicators play a key role in disease prevention.

A person's lifestyle significantly affects the risk of developing chronic kidney disease. Insufficient physical activity contributes to obesity, metabolic disorders, and high blood pressure. Improper nutrition, including high intake of salt, saturated fats, and sugar, increases the risk of hypertension and diabetes, which directly damage the kidneys. Smoking and alcohol abuse cause oxidative stress and endothelial dysfunction, enhancing renal vascular injury. Environmental pollution, exposure to heavy metals, and toxic chemicals also increase the likelihood of kidney function impairment. Chronic stress, sleep disorders, and psycho-emotional strain contribute to metabolic and cardiovascular diseases, indirectly affecting kidney health. Prevention focusing on a healthy lifestyle, balanced nutrition, and avoidance of harmful habits can significantly reduce CKD incidence. Public awareness about risk factors and regular medical check-ups are important strategies for prevention.

Socio-demographic factors also play a significant role in the development of CKD. Age is an important predictor as age increases, the risk of kidney function decline rises. Gender differences influence disease prevalence, with men more often experiencing CKD progression. Education level and socioeconomic status determine access to healthcare and the ability to maintain a healthy lifestyle. Urban residents often face stress, environmental pollution, and limited physical activity. Ethnic predisposition and family history of kidney disease increase the likelihood of early CKD onset.

Insufficient public awareness of symptoms and risk factors leads to late diagnosis and complicated disease course. Implementing educational programs, ensuring accessible medical care, and providing social support for patients can significantly reduce incidence and slow CKD progression.

Conclusion

Chronic kidney disease develops under the influence of multiple interrelated factors, including medical, social, and environmental aspects. Diabetes mellitus, arterial hypertension, obesity, genetic predisposition, and chronic inflammatory processes are key medical risk factors. Lifestyle habits, nutrition, smoking, alcohol consumption, and exposure to adverse environmental conditions also significantly affect the onset and progression of CKD. Socio-demographic factors, such as age, gender, education level, and socioeconomic status, determine access to healthcare and the ability to maintain a healthy lifestyle. Early identification and management of these risk factors form the foundation for CKD prevention, slowing disease progression, and reducing the incidence of complications. Therefore, a comprehensive approach to identifying and addressing risk factors can significantly improve outcomes for patients with chronic kidney disease.

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HYPERURICEMIA AS AN EARLY MARKER OF KIDNEY FUNCTION DISORDERS IN YOUTH

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Abstract: This study examines hyperuricemia as an early marker of kidney function impairment in youth. Elevated serum uric acid levels may reflect subclinical changes in glomerular filtration, tubular function, and renal microcirculation even in apparently healthy young individuals. The paper reviews the physiological role of uric acid, its impact on renal parameters, and the mechanisms by which hyperuricemia can contribute to kidney dysfunction. Early identification of elevated uric acid levels allows for timely preventive interventions, including lifestyle modifications, dietary adjustments, and increased physical activity. Monitoring uric acid alongside kidney function parameters provides a valuable tool for risk assessment, early diagnosis, and long-term preservation of renal health in the young population.

Keywords: Hyperuricemia, kidney function, youth, glomerular filtration rate, serum uric acid.

INTRODUCTION

Hyperuricemia, defined as an elevated level of uric acid in the blood, is increasingly recognized as a potential early marker of metabolic and renal dysfunction. This condition is particularly relevant for young individuals, as many pathological processes at this age remain subclinical and asymptomatic. Uric acid is the end product of purine metabolism, and its concentration in the blood reflects the balance between production and renal excretion. Even slight increases in uric acid levels may affect the endothelial function of renal vessels, renal microcirculation, and filtration processes. Therefore, investigating hyperuricemia in youth is of considerable scientific and clinical interest, providing insight into early detection of renal disorders and the prevention of chronic kidney disease.

Relevance

Recent epidemiological studies have shown a strong association between hyperuricemia and the risk of developing renal dysfunction, cardiovascular disease, and metabolic disorders. Young individuals generally demonstrate high compensatory capacity, which can mask early pathological changes. Nevertheless, even borderline elevations in uric acid can indicate initial alterations in glomerular filtration rate, electrolyte excretion, and overall kidney function. Lifestyle factors, dietary habits, physical activity, and genetic predispositions also contribute to subclinical metabolic shifts. Early identification of hyperuricemia in young people is therefore crucial for preventive strategies and timely intervention to preserve renal health.

Main part

Uric acid is the final product of purine metabolism and plays a dual role in the human body. At physiological levels, it acts as an antioxidant, neutralizing free radicals and protecting cells from oxidative damage. However, when its concentration exceeds normal limits, uric acid can act as a pro-oxidant, promoting oxidative stress, endothelial dysfunction, and inflammation in various tissues, including the kidneys. Hyperuricemia arises from increased production of uric acid due to enhanced purine breakdown or decreased excretion by the kidneys. Genetic factors, dietary habits, and lifestyle also influence uric acid levels in the blood. In young people, early stages of hyperuricemia often remain subclinical and may not present with obvious symptoms. Nevertheless, even moderate increases can initiate processes that compromise microcirculation in renal tissues. Elevated uric acid can lead to renal vasoconstriction, oxidative stress, and low-grade inflammation. These processes, if persistent, may contribute to early structural and functional changes in the kidneys. Understanding these mechanisms is crucial for identifying at-risk individuals and implementing timely preventive strategies. Laboratory monitoring of uric acid in youth can reveal early metabolic shifts before clinical manifestations develop. Recognizing hyperuricemia as a biochemical marker allows researchers and clinicians to explore its role in the pathogenesis of renal dysfunction. Preventive measures based on early detection can reduce long-term risks and improve renal health outcomes.

Elevated uric acid levels are strongly associated with changes in kidney function, even among clinically healthy young individuals. The most important parameters include glomerular filtration rate (GFR), serum creatinine, urea concentration, and electrolyte excretion. Hyperuricemia may reduce GFR by causing renal microvascular constriction and impairing perfusion. It can also promote endothelial dysfunction in glomerular and tubular capillaries. These alterations often remain subclinical,

detectable only through laboratory analysis, which highlights the importance of regular monitoring. Research shows that persistent hyperuricemia can lead to low-grade renal inflammation, fibrosis, and oxidative damage, even before symptoms appear. Uric acid may also interact with other metabolic pathways, exacerbating insulin resistance, hypertension, and oxidative stress, which indirectly affect kidney function. Tracking these parameters in young individuals provides early warning signs of developing renal compromise. Early detection allows clinicians to implement interventions before irreversible changes occur. The relationship between uric acid levels and kidney function demonstrates the interdependence of metabolic regulation and renal health. Understanding this link supports the use of uric acid as an early biomarker for assessing the risk of kidney dysfunction. Monitoring laboratory markers of renal function alongside uric acid provides a more comprehensive evaluation of renal health in youth. Recognizing hyperuricemia as an early marker of kidney dysfunction in young people has significant preventive implications. Identifying elevated uric acid levels enables timely lifestyle interventions, including dietary adjustments, increased physical activity, adequate hydration, and weight management. Early intervention may halt or slow the progression of metabolic disturbances and prevent the development of chronic kidney disease. Personalized recommendations based on laboratory monitoring can help mitigate risk factors that contribute to hyperuricemia and renal stress. Preventive strategies also enhance awareness among young individuals regarding long-term kidney health. Educational programs on nutrition and exercise can complement medical monitoring, fostering healthier behaviors. Clinicians can use uric acid levels to stratify patients for risk and prioritize early follow-up. Continuous evaluation of kidney function alongside uric acid monitoring provides feedback on the effectiveness of lifestyle modifications. Such proactive measures are cost-effective and reduce future healthcare burdens. Early detection and management of hyperuricemia support the overall goal of preventive medicine by preserving renal function, minimizing complications, and promoting healthy aging.

Conclusion

Hyperuricemia in youth serves as a significant early marker of kidney function impairment. Even in the absence of clinical symptoms, elevated uric acid levels can indicate subclinical changes in glomerular filtration, tubular function, and renal microcirculation. Monitoring uric acid alongside key kidney function parameters, such as serum creatinine, urea, and glomerular filtration rate, allows for early detection of potential renal dysfunction. Early identification enables the implementation of preventive strategies, including lifestyle modifications, dietary adjustments, increased

physical activity, and weight management, which can reduce the risk of progression to chronic kidney disease. Recognizing hyperuricemia as a prognostic and diagnostic biomarker in young populations highlights its importance in preventive medicine. Overall, integrating uric acid monitoring into routine health assessments in youth provides an effective approach for preserving renal health and promoting long-term wellness.

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КЛИНИЧЕСКИЕ ОСОБЕННОСТИ ТЕЧЕНИЯ ХОБЛ У ПАЦИЕНТОВ МОЛОДОГО И СРЕДНЕГО ВОЗРАСТА

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Аннотация: В работе рассматриваются клинические особенности течения хронической обструктивной болезни лёгких (ХОБЛ) у пациентов молодого и среднего возраста. Отмечается, что у данной категории больных симптомы могут проявляться менее выражено, что затрудняет раннюю диагностику. Вместе с тем заболевание прогрессирует быстрее и сопровождается высоким риском развития сопутствующих патологий, включая сердечно-сосудистые и метаболические заболевания. В статье обсуждаются эпидемиологические данные, факторы риска, клиническая картина, методы диагностики, а также принципы лечения и профилактики. Подчеркивается важность раннего выявления, индивидуализированного подхода к терапии и комплексной профилактики для улучшения прогноза и качества жизни пациентов.

Ключевые слова: ХОБЛ, молодые пациенты, средний возраст, клинические особенности, диагностика, лечение, профилактика.

ВВЕДЕНИЕ

Хроническая обструктивная болезнь легких (ХОБЛ) является распространенным заболеванием дыхательной системы, сопровождающимся необратимой обструкцией дыхательных путей и хроническим воспалением. В последние годы наблюдается рост числа пациентов с ХОБЛ в молодом и среднем возрасте, что требует изучения особенностей течения заболевания у этих групп. У молодых пациентов симптомы могут проявляться менее типично: одышка, кашель и

выделение мокроты выражены умеренно, при этом функциональные нарушения легких прогрессируют быстрее, чем у старших пациентов. Раннее начало заболевания связано с повышенным риском развития сопутствующих патологий и снижением качества жизни. Изучение клинических особенностей ХОБЛ у пациентов молодого и среднего возраста важно для своевременной диагностики, выбора эффективной терапии и разработки профилактических мер, направленных на замедление прогрессирования заболевания.

Актуальность темы

ХОБЛ все чаще встречается у пациентов молодого и среднего возраста. Раннее начало заболевания связано с быстрым прогрессированием обструкции дыхательных путей, скрытой симптоматикой и высоким риском сопутствующих патологий. Изучение клинических особенностей у этой группы важно для своевременной диагностики, оптимизации терапии и улучшения качества жизни пациентов.

Основная часть

Хроническая обструктивная болезнь легких (ХОБЛ) считается одной из ведущих причин заболеваемости и смертности во всем мире. В последние годы отмечается рост числа случаев ХОБЛ среди пациентов молодого (до 45 лет) и среднего возраста (45–60 лет). Основными факторами риска развития заболевания являются курение, воздействие профессиональных вредностей, экологические загрязнения и генетическая предрасположенность. Курение остается ключевым фактором, ускоряющим прогрессирование обструктивных нарушений дыхательных путей. Профессиональные вредности, такие как пыль, химические вещества и аэрозоли, усиливают воспалительные процессы в бронхах и альвеолах. Генетические факторы, например дефицит α 1-антитрипсина, повышают восприимчивость к раннему развитию ХОБЛ. Влияние метаболических и сердечно-сосудистых сопутствующих заболеваний также усиливает тяжесть клинических проявлений. Анализ эпидемиологических данных позволяет выявить группы повышенного риска и разрабатывать стратегии профилактики. Молодые пациенты часто не осознают наличие заболевания, что приводит к поздней диагностике. Средний возраст проявления симптомов может быть разнообразным, в зависимости от длительности воздействия факторов риска. Своевременное выявление и мониторинг пациентов с ранним началом ХОБЛ являются важными задачами клинической практики. Программы скрининга и образовательные мероприятия способствуют снижению заболеваемости и замедлению прогрессирования. Изучение факторов риска в

различных популяциях позволяет адаптировать профилактические меры к региональным особенностям. Гендерные различия также имеют значение, так как мужчины чаще подвергаются профессиональным и табачным воздействиям. Клиническая практика требует интеграции эпидемиологических данных с индивидуальными характеристиками пациента. Раннее вмешательство способствует замедлению функционального снижения легких. Современные исследования подчеркивают значимость комплексного подхода к оценке факторов риска у молодых и средних возрастных пациентов.

Клиническое течение ХОБЛ у молодых пациентов отличается от старшей возрастной группы. Симптомы могут быть менее выраженными, что затрудняет раннюю диагностику. Основные проявления включают хронический кашель, выделение мокроты, одышку при физической нагрузке и периодические обострения. У пациентов среднего возраста симптомы становятся более отчетливыми, однако остаются вариабельными. Важную роль играет история заболевания, включая длительность курения, профессиональные и экологические факторы. Физикальное обследование может выявить хрипы, укорочение перкуторного звука и снижение дыхательных шумов. Лабораторные методы включают общий анализ крови, показатели воспаления и биохимию, однако специфичность ограничена. Основным методом диагностики остается спирометрия, позволяющая оценить степень обструкции дыхательных путей и прогрессирование заболевания. Рентгенологические и компьютерные методы исследования помогают выявить структурные изменения легких. Дифференциальная диагностика необходима для исключения бронхиальной астмы, интерстициальных болезней легких и сердечно-сосудистых патологий. Важное значение имеет мониторинг обострений, их частота и тяжесть, так как это влияет на прогноз и выбор терапии. Своевременное выявление ранних стадий ХОБЛ позволяет применять лечебные и профилактические меры до развития необратимых изменений. Современные рекомендации подчеркивают необходимость индивидуального подхода к каждому пациенту с учетом возраста, сопутствующих заболеваний и функционального состояния легких.

Лечение ХОБЛ у молодых и средних пациентов направлено на замедление прогрессирования заболевания, уменьшение симптомов и улучшение качества жизни. Основу терапии составляют отказ от курения, медикаментозное лечение, реабилитационные программы и профилактика обострений. Ингаляционные бронходилататоры и глюкокортикоиды используются для контроля воспаления и облегчения обструкции дыхательных путей. Физическая реабилитация и

дыхательная гимнастика способствуют поддержанию функциональной активности. Обострения купируются с помощью антибактериальных, противовоспалительных и симптоматических средств. Важное место занимает мониторинг сопутствующих заболеваний, включая сердечно-сосудистые и метаболические расстройства. Профилактика осложнений включает вакцинацию, контроль факторов риска и регулярное наблюдение у пульмонолога. Прогноз зависит от раннего выявления заболевания, соблюдения терапии и образа жизни пациента. Молодые пациенты при своевременном вмешательстве могут сохранить трудоспособность и высокое качество жизни. Средний возраст проявления требует системного подхода к контролю симптомов и предотвращению осложнений. Современные исследования подчеркивают необходимость персонализированной терапии с учетом генетических, экологических и социальных факторов. Образовательные программы и скрининг способствуют улучшению осведомленности пациентов и повышению приверженности лечению. Комплексный подход обеспечивает снижение частоты обострений, замедление функционального снижения легких и улучшение прогноза на долгосрочную перспективу.

Заключение

У молодых и пациентов среднего возраста клиническое течение ХОБЛ отличается менее выраженными симптомами, что затрудняет раннюю диагностику. При этом заболевание прогрессирует быстрее, приводя к ухудшению функции лёгких и повышенному риску развития сопутствующих заболеваний, включая сердечно-сосудистые и метаболические патологии. Ранняя диагностика с использованием спирометрии и рентгенологических методов, а также индивидуализированный подход к терапии отказ от курения, ингаляционные препараты, реабилитационные программы и профилактика обострений позволяют замедлить прогрессирование заболевания и улучшить качество жизни пациентов. Комплексный подход, включающий образовательные программы и контроль факторов риска, способствует повышению приверженности лечению и снижению частоты обострений, что улучшает долгосрочный прогноз ХОБЛ у данной возрастной группы.

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THE ROLE OF GENDER AND IDENTITY IN 20TH-CENTURY LITERARY DISCOURSE

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Abstract: This article explores the complex interplay between gender and identity in 20th-century literary discourse. It examines how authors from diverse cultural and social backgrounds represented gender roles, challenged traditional norms, and negotiated personal and collective identities through literature. By analyzing key literary texts and theoretical frameworks, the study highlights the ways in which literature both reflects and shapes societal understandings of gender and identity. The research underscores the significance of considering historical, cultural, and political contexts in interpreting literary representations, offering insights into the evolving discourse on human experience and social constructs in the modern era.

Keywords: Gender, Identity, Literary Discourse, 20th Century Literature, Cultural Representation, Social Norms, Feminist Criticism, Literary Theory

Introduction

The 20th century witnessed profound social, political, and cultural transformations that significantly influenced literature. One of the most compelling areas of study in modern literary discourse is the exploration of gender and identity. Literature serves not only as a reflection of societal norms but also as a platform for questioning and redefining them. Authors have used narrative, characterization, and stylistic innovations to examine how gender roles are constructed, performed, and challenged within different cultural and historical contexts. The concept of identity in literature is multifaceted, encompassing personal, social, and cultural dimensions. Gender, as a social construct, intersects with other aspects of identity such as race, class, and sexuality, creating complex narratives that reveal both individual and collective experiences. By analyzing literary texts through the lens of gender and identity, scholars gain a deeper understanding of how literature negotiates power dynamics, societal expectations, and human agency. This study aims to investigate the role of gender and identity in 20th-century literary discourse, highlighting the ways in which writers confront traditional norms, explore marginalized perspectives, and contribute to broader conversations about human experience and social change.

Materials and Methods

This study employs a qualitative research approach, focusing on the analysis of literary texts produced during the 20th century. Primary sources include novels, short stories, plays, and poetry written by authors from diverse cultural and social backgrounds. The selection of texts is guided by their relevance to themes of gender, identity, and social roles. The research methodology combines close reading with thematic and critical analysis. Close reading allows for a detailed examination of language, narrative structure, and literary devices that convey gender and identity constructs. Thematic analysis identifies recurring patterns, motifs, and representations of gender and identity across different texts and genres. Additionally, the study incorporates theoretical frameworks from feminist criticism, gender studies, and cultural theory. These frameworks provide tools to interpret how literary works engage with issues of power, social norms, and the negotiation of individual and collective identities. Comparative analysis is also used to highlight differences and similarities in the portrayal of gender and identity across cultures and historical periods within the 20th century.

Results

The analysis of 20th-century literary texts reveals several key patterns in the representation of gender and identity. Firstly, many authors actively challenge traditional gender roles, presenting characters who defy societal expectations and explore alternative ways of self-expression. Female protagonists, in particular, are often depicted as agents of change, asserting autonomy and questioning patriarchal structures. Secondly, the study shows that identity in literature is frequently portrayed as fluid and multifaceted. Characters navigate multiple social, cultural, and personal influences, highlighting the intersectionality of gender with race, class, and sexuality. This reflects a broader literary trend toward examining the complexity of human experience rather than adhering to rigid categories. Thirdly, cultural and historical contexts significantly shape literary depictions of gender and identity. For example, texts from periods of social upheaval or political transformation often foreground issues of equality, resistance, and liberation, while other works emphasize personal introspection and identity formation. Finally, the analysis indicates that 20th-century literature serves as both a mirror and a critique of societal norms. By portraying diverse experiences and challenging dominant narratives, authors contribute to ongoing discourses on gender, identity, and social change, underscoring literature's role in shaping public consciousness.

Discussion

The findings of this study highlight the dynamic and transformative role of literature in negotiating gender and identity in the 20th century. The challenge to traditional gender roles observed in the analyzed texts reflects a broader cultural shift toward questioning established social hierarchies and norms. Literary works not only depict these changes but also actively participate in shaping societal perceptions of gender and identity. The fluidity of identity, as revealed through the characters' experiences, emphasizes the complexity of human existence and the intersectionality of social categories such as race, class, and sexuality. This aligns with contemporary theoretical perspectives that view identity as socially constructed, negotiated, and context-dependent rather than fixed. Furthermore, the cultural and historical context of each literary work plays a crucial role in shaping its representation of gender and identity. Texts emerging from periods of political or social upheaval often foreground themes of liberation, resistance, and equality, suggesting that literature responds to, and is influenced by, real-world societal transformations. Conversely, works focused on individual introspection provide insight into personal identity formation and the psychological dimensions of gender experience. Overall, this study demonstrates that 20th-century literature serves as both a mirror of and a catalyst for social discourse. By exploring diverse perspectives and challenging dominant narratives, authors contribute to an ongoing dialogue about human experience, social norms, and the evolving understanding of gender and identity. These insights underscore the significance of integrating literary analysis with cultural and social theory to fully comprehend the multifaceted nature of identity in literature.

Conclusion

In conclusion, 20th-century literature provides a rich and nuanced exploration of gender and identity, revealing how social, cultural, and historical contexts shape human experience. Authors challenge traditional norms, depict diverse and intersectional identities, and offer critical perspectives on societal expectations. Literature emerges as both a reflection of social change and a powerful tool for shaping public understanding of gender and identity. By analyzing these texts through feminist, cultural, and literary theories, scholars can gain deeper insights into the ongoing dialogue between literature and society, highlighting the enduring relevance of literary discourse in examining human identity.

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EFFECTIVENESS OF MONOPOLY AND COMPETITION POLICY
MONOPOLIYA VA RAQOBAT SIYOSATI SAMARADORLIGI
ЭФФЕКТИВНОСТЬ ПОЛИТИКИ МОНОПОЛИИ И КОНКУРЕНЦИИ

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“Kompyuter injiniringi va raqamli texnologiyalari” kafedrası katta o'qituvchisi

Abstract. This article analyzes the impact of monopolies on the market economy and the effectiveness of competition policy. Monopoly is a market structure in which one or several firms determine the price and output of goods or services in the absence of market competition. Market efficiency is shaped by the presence or absence of competition. Competition policy includes government measures aimed at reducing the negative effects of monopolies, creating a healthy competitive environment, and ensuring consumer welfare. The article highlights the mechanisms of competition policy in the national economy, their effectiveness, and practical outcomes.

Keywords: Monopoly, competition policy, antitrust regulation, market efficiency, competition, anti-monopoly policy, Uzbekistan competition legislation.

Annotatsiya. Ushbu maqolada monopoliyalarning bozor iqtisodiyotiga ta'siri va raqobat siyosatining samaradorligi masalalari tahlil qilinadi. Monopoliya — bozor raqobati yo'qligida bir yoki bir nechta korxona tomonidan tovar yoki xizmat narxini va ishlab chiqarish hajmini belgilaydigan bozor strukturasi. Bozor samaradorligi esa raqobatning mavjudligi yoki yo'qligi orqali shakllanadi. Raqobat siyosati monopoliyalarning salbiy ta'sirlarini kamaytirish, sog'lom raqobat muhitini yaratish va iste'molchi farovonligini ta'minlashga qaratilgan davlat chora-tadbirlarini o'z ichiga oladi. Maqola mamlakat iqtisodiyotidagi raqobat siyosati mexanizmlari, ularning samaradorligi va amaliy natijalarini yoritadi.

Kalit so'zlar: Monopoliya, raqobat siyosati, antimonopol tartibga solish, bozor samaradorligi, raqobat, monopoliyaga qarshi siyosat, O'zbekiston raqobat qonunchiligi.

Аннотация. В статье анализируется влияние монополий на рыночную экономику и эффективность политики конкуренции. Монополия — это

рыночная структура, при которой одна или несколько компаний определяют цену и объем производства товара или услуги в условиях отсутствия рыночной конкуренции. Эффективность рынка формируется в зависимости от наличия или отсутствия конкуренции. Политика конкуренции включает меры государства, направленные на снижение негативного влияния монополий, создание здоровой конкурентной среды и обеспечение благосостояния потребителей. В статье рассматриваются механизмы политики конкуренции в экономике страны, их эффективность и практические результаты.

Ключевые слова: Монополия, политика конкуренции, антимонопольное регулирование, эффективность рынка, конкуренция, антимонопольная политика, законодательство о конкуренции Узбекистана.

KIRISH: Bozor iqtisodiyotining samarali ishlashi sogʻlom raqobatga bogʻliq boʻlib, raqobatning yoʻqligi yoki juda past darajasi monopoliyalarga yoʻl ochadi. Monopoliya — bu bitta ishlab chiqaruvchi yoki xizmat koʻrsatkich bozorni deyarli toʻliq nazorat qiladigan holat boʻlib, raqobat sharoitida kundalik bozor mexanizmlarini buzadi. Monopol strukturasi narxlarni sunʼiy balandlashtirishi, isteʼmolchi tanlovini cheklashi va iqtisodiy samaradorlikni pasaytirishi mumkin. Shu sababli tashkil etilgan bozor iqtisodiyoti sharoitida monopoliyalarga qarshi kurash va raqobatni qoʻllab-quvvatlash boʻyicha siyosatning samaradorligi alohida ahamiyat kasb etadi. Raqobat siyosati mamlakatlar iqtisodiy tizimida bozorlar samaradorligini taʼminlash va monopoliyalarning salbiy oqibatlarini bartaraf etish uchun ishlab chiqilgan kompleks chora-tadbirlar majmuasidan iborat. U bozorda sogʻlom raqobatni saqlab qolish, raqobat muhitini rivojlantirish, isteʼmolchi huquqlarini himoya qilish va innovatsiyalarni ragʻbatlantirishga qaratilgan. Samarali raqobat siyosati iqtisodiy oʻsish, mahsulot va xizmat sifatini yaxshilash va narxlarning adolatli shakllanishi bilan bogʻliq. Oʻzbekiston tajribasida monopoliyalarga qarshi tartibga solish boʻyicha qonun hujjatlari va institutlar shakllangan. Masalan, Oʻzbekiston Respublikasining “Raqobat toʻgʻrisida”gi Qonuni raqobatni saqlab qolish, monopoliyalarning bozorni buzuvchi harakatlarini tartibga solish va isteʼmolchilar manfaatlarini himoya qilishni nazarda tutadi.

TADQIQOT METODOLOGIYASI: Ushbu maqolada quyidagi ilmiy metodlar qoʻllanildi:

Adabiyotlar tahlili: Monopoliya va raqobat siyosati, bozor samaradorligi boʻyicha Oʻzbek va xalqaro ilmiy manbalar oʻrganildi, shu jumladan raqobat siyosati samaradorligi boʻyicha maqolalar.

Huquqiy analiz: O‘zbekiston Respublikasidagi raqobat va antimonopol qonunchiligida belgilangan talablar va ularning amaliy natijalari tahlil qilindi. Solishtirma tahlil: Raqobat va monopoliyalarning bozor samaradorligiga ta’siri boshqa davlatlar tajribasi bilan solishtirildi, ularning samaradorlik mexanizmlari taqqoslandi.

Empirik tahlil: Bozor ko‘rsatkichlari, monopoliyalarga qarshi chora-tadbirlar natijalari va raqobat siyosati samaradorligi bo‘yicha statistik ma’lumotlar tahlil qilindi.

Mazkur metodlar maqolaga ilmiy asos va ishonchlilik beradi hamda raqobat siyosati samaradorligini tahlil qilish imkonini yaratadi.

ASOSIY QISM: Monopoliya — bozorning yagona yetakchi subyekti bo‘lib, u narx belgilash va ishlab chiqarish miqdorini nazorat qiluvchi holatdir. Bozorning mukammal raqobatidan farqli o‘laroq, monopoliyada raqobatchilar yo‘q va bozor kirish to‘siqlari yuqori bo‘ladi. Bu holat narxlarning sun‘iy balandlashuvi, iste’molchilar imkoniyatlarining cheklanishi, samaradorlikning pasayishi va resurslarning noto‘g‘ri taqsimlanishiga olib keladi. Monopoliyalar tabiiy bo‘lishi mumkin — ya’ni sanoat xarajatlari juda yuqori bo‘lganda bitta korxona samaraliroq bo‘lishi mumkin (masalan, transport infratuzilmasi yoki kommunal xizmatlar). Biroq ko‘pincha monopoliyalar bozorni adashish, raqobatni cheklash va iste’molchi huquqlarini buzish orqali o‘z mavqeini mustahkamlaydi. Monopoliyalarga qarshi siyosatning samaradorligini baholash uchun avvalo raqobatning bozor samaradorligiga ta’siri tushunilishi lozim. Sog‘lom raqobat sharoitida firmalar narxlarni pasaytirishga, sifatni oshirishga va innovatsiyalarni joriy etishga intiladi, bu esa umumiy iqtisodiy samaradorlikni oshiradi. Raqobat bo‘lmagan bozor esa bu jarayonlarni susaytiradi yoki to‘xtatadi. Raqobat siyosati — bu davlat tomonidan monopoliyalarni tartibga solish va sog‘lom raqobatni saqlab qolish uchun amalga oshiriladigan strategik chora-tadbirlar majmuasidir. U quyidagi maqsadlarni amalga oshirishga qaratilgan:

Bozor kuchini tartibga solish: Monopoliyalarning bozor ustunligini nazorat qilish, narxlarni shakllantirishni adolatli qilish va bozor kirish to‘siqlarini kamaytirish.

Kartel va monopoliya kelishuvlarini oldini olish: Kompaniyalar o‘rtasidagi kelishilgan narxlar va bozor bo‘lish holatlarini aniqlash va bartaraf etish. Raqobat muhiti infratuzilmasini kuchaytirish: Bozorga yangi subyektlar kirish imkoniyatini oshirish, kichik va o‘rta biznesni kengaytirish va innovatsiyalarni rag‘batlantirish.

Iste’molchilar huquqlarini himoya qilish: Monopoliyalarning iste’molchiga narxlarni sun‘iy oshirish va xizmat sifatini pasaytirish holatlaridan himoyalani. Raqobat siyosati antitrust qonunlari bilan mustahkamlanadi. Masalan, O‘zbekiston Respublikasining “Raqobat to‘g‘risida”gi Qonuni monopoliyalarga qarshi chora-tadbirlar, kartel kelishuvlarini taqiqlash, raqobatni himoya qilish mexanizmlarini

belgilaydi. Monopoliyalar bozor samaradorligi ustida turlicha ta'sir ko'rsatadi. Ular narxni yuqoriga ko'tarib, ishlab chiqarish miqdorini kamaytiradi — bu esa bozorning samaradorligini pasaytiradi. Rivojlanayotgan bozorlarda monopoliyalar iste'molchi ortiqcha to'lovlari orqali resurslarni qayta taqsimlashni kamaytiradi va jamiyat umumiy farovonligiga salbiy ta'sir qiladi.

Monopoliyalar quyidagi yo'llar bilan bozor samaradorligini pasaytirishi mumkin:

Narxni oshirish: Raqobatning yo'qligi monopolistga narxni bozor narxidan yuqoriga ko'tarishga imkon beradi. Iste'molchi tanlovini cheklash: Bozorning yagona yetakchisi bo'lganda iste'molchi tanlovi kamayadi va xizmat sifatiga bosim pasayadi.

Resurslar noto'g'ri taqsimlanadi: Samarali bo'lmagan firmalar bozorga kirib qoladi yoki samarali bozorlar resurslarni optimal tarzda ishlatmaydi. Antimonopol siyosatining samaradorligi bu salbiy ta'sirlarni kamaytirish va bozor samaradorligini tiklashga qaratilgan chora-tadbirlarni ishlab chiqish orqali baholanadi. Raqobat siyosati davlat tomonidan antimonopol qonunlar orqali olib boriladi. Bu qonunlar raqobatni himoya qiladi, monopoliyalarning bozorni buzuvchi xatti-harakatlarini tartibga soladi va kartel kelishuvlarini taqiqlaydi. Masalan, O'zbekiston Respublikasidagi monopoliyaga qarshi qonun bozorning sog'lom raqobat muhitini yaratishga xizmat qiladi. Bozor strukturasi diversifikatsiya qilish — bu kichik va o'rta biznesni qo'llab-quvvatlash orqali monopoliyalarning bozor ustunligini kamaytirishdir. Bunday yondashuv raqobatni mustahkamlaydi va bozor samaradorligini oshiradi. Innovatsiyalar raqobatni rag'batlantiradi va monopoliyalarga qarshi competitiv ustunlik yaratadi. Raqamli infratuzilma va texnologik yangiliklar bozor sharoitida monopoliya ustunligini cheklashi mumkin.

TAHLIL VA NATIJALAR: Maqolada raqobat siyosati samaradorligi tahlil qilinganida quyidagi asosiy natijalar chiqariladi:

Monopoliya bozorda samaradorlikni pasaytiradi: Raqobatsiz bozor narxlar sun'iy baland bo'lib, iste'molchi farovonligi pasayadi va iqtisodiyot samaradorlikdan mahrum bo'ladi.

Raqobat siyosati bozor imtiyozlarini tiklaydi: Antimonopol qonunlar bozorni adolatli raqobat sharoitiga olib keladi, bu esa bozor samaradorligini oshiradi.

Bozor diversifikatsiyasi raqobatni oshiradi: Small biznes va yangi subyektlarning bozorga kirishi monopoliyalarning bozor ustunligini kamaytiradi.

Innovatsiyalar raqobatni kuchaytiradi: Innovatsion yondashuvlar bozor samaradorligini oshiradi va monopoliyalarga qarshi raqobatni rag'batlantiradi.

XULOSA: Monopoliya va raqobat siyosati bozor samaradorligiga bevosita ta'sir ko'rsatadi. Monopoliyalar raqobat yo'qligida narxlarning oshishi, resurslarning

noto'g'ri taqsimlanishi va iste'molchi huquqlarining cheklanishi orqali bozor samaradorligini kamaytiradi. Samarali raqobat siyosati antimonopol qonunlar, bozorda diversifikatsiya, innovatsiyalar va raqamli infratuzilma orqali bozorni adolatli raqobat muhitiga olib keladi. Shu sababli davlat tomonidan raqobat siyosatini takomillashtirish bo'yicha amalga oshirilgan chora-tadbirlar bozor samaradorligini mustahkamlashda muhim ahamiyatga ega.

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**XROMATOGRAFIYANING TIBBIY TAHLIL VA ILMIY
IZLANISHLARDAGI FUNDAMENTAL IMKONIYATLARI.**

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Annotatsiya: Ushbu ilmiy maqolada xromatografiya usulining zamonaviy tibbiyot va biokimyoviy tadqiqotlardagi keng ko'lamli imkoniyatlari atroflicha tahlil qilinadi. Tadqiqot davomida moddalarning turli fazalar o'rtasidagi taqsimlanish qonuniyatlari, adsorbsion va desorbsiya jarayonlarining biologik molekulalar tahlilidagi ahamiyati, shuningdek, mikro-miqdordagi komponentlarni identifikatsiyalash usullari ko'rib chiqiladi. Patologik jarayonlarni molekulyar darajada tashxislash, dori vositalarining farmakokinetik ko'rsatkichlarini modellashtirish hamda organizmdagi gomeostaz holatini xromatografik monitoring qilish masalalari yoritilgan. Maqola tibbiyot yo'nalishidagi talabalar, magistrantlar va ilmiy izlanuvchilar uchun mo'ljallangan bo'lib, u analitik kimyoning tibbiy amaliyot bilan integratsiyasini aks ettiradi.

Kalit so'zlar: Xromatografiya, statsionar faza, harakatchan faza, bioorganik kimyo, molekulyar diagnostika, metabolitlar, farmakokinetika, dori monitoringi, biomarkerlar, sorbsiya, eluyent.

Kirish: Zamonaviy tibbiyotning jadal rivojlanishi inson organizmidagi murakkab biokimyoviy jarayonlarni chuqur va aniq o'rganishni talab etadi. Inson tanasi o'zining kimyoviy tarkibi bo'yicha o'ta murakkab, ko'p komponentli tizim bo'lib, undagi har bir molekula ma'lum bir fiziologik funksiyani bajaradi. Ushbu tizimdagi eng kichik o'zgarishlar — gormonlar, aminokislotalar yoki fermentlar konsentratsiyasining o'zgarishi — og'ir xastaliklarning debochasi bo'lishi mumkin. Biologik obyektlarni tahlil qilishdagi eng katta qiyinchilik — bu tarkibiy jihatdan bir-biriga juda yaqin bo'lgan moddalarni ajratib olish va ularning miqdorini aniqlashdir.

Aynan xromatografiya usuli o'zining yuqori selektivligi va sezgirliги bilan ushbu muammoni hal etishda asosiy vosita bo'lib xizmat qiladi. Tibbiy izlanishlarda xromatografiya nafaqat diagnostika, balki yangi dori vositalarini sintez qilish, ularning organizmga ta'sirini o'rganish va zaharli moddalarni aniqlashda almashtirib bo'lmaz metodologiya hisoblanadi. Bugungi kunda ushbu uslubning takomillashishi natijasida genetik injeneriya va molekulyar biologiya kabi sohalarda inqilobiy kashfiyotlar amalga oshirilmoqda.

Asosiy qism: Xromatografiya usulining tibbiy izlanishlardagi mohiyati uning moddalarni ikki faza — qo'zg'almas (statsionar) va harakatchan (mobil) fazalar o'rtasidagi qayta taqsimlanishiga asoslanishidir. Tibbiy kimyoda organizmning qon plazmasi, limfa suyuqligi yoki to'qima ekstraktlari kabi murakkab aralashmalari xromatografik kolonnadan o'tkazilganda, har bir komponent o'zining fizik-kimyoviy xususiyatlariga (molekulyar massasi, qutbliligi, elektr zaryadi) ko'ra turlicha tezlikda harakatlanadi. Bu jarayon tibbiy diagnostikada o'ta muhim ahamiyatga ega, chunki u qon tarkibidagi patologik oqsillarni yoki metabolizm buzilishi natijasida hosil bo'lgan oraliq mahsulotlarni ajratib olishga imkon beradi.

Masalan, aminokislotalar almashinuvini o'rganishda ion almashinuvchi xromatografiya qo'llaniladi; bunda sorbent sirtidagi zaryadlangan guruhlar aminokislotalarning ionlari bilan o'zaro ta'sirga kirishadi va ularni o'ziga xos tartibda ajratadi. Bu usul yordamida bolalarda uchraydigan ko'plab irsiy-metabolik kasalliklar, jumladan, fenilketonuriya yoki gomosistinuriya kabi xastaliklar hali klinik belgilar namoyon bo'lmagan turib, qon tarkibidagi aminokislotalar nisbatining o'zgarishiga qarab aniqlanadi.

Shuningdek, farmakologik tadqiqotlarda Yuqori samarali suyuqlik xromatografiyasi (YU-SSX) dori vositalarining biotransformatsiyasini o'rganishda yetakchi o'rin tutadi. Dori moddasi organizmga kiritilgandan so'ng jigar fermentlari ta'sirida turli metabolitlarga parlanadi. Xromatografiya orqali ushbu metabolitlarning har biri alohida identifikatsiya qilinib, ularning terapevtik samarasi yoki toksik xususiyatlari baholanadi. Bu esa klinik amaliyotda "terapevtik dori monitoringi" tushunchasini shakllantirdi, ya'ni har bir bemor uchun dori dozasini uning individual metabolizmiga qarab aniq belgilash imkonini berdi.

Bundan tashqari, gaz-suyuqlik xromatografiyasi usuli nafas havosi yoki qon tarkibidagi uchuvchan organik birikmalarni aniqlash orqali nafas yo'llari va jigar kasalliklarini diagnostika qilishda qo'llanilmoqda. Lipitlar almashinuvini tadqiq qilishda esa, xromatografiya yordamida qon zardobidagi umumiy xolesterin, past va

yuqori zichlikdagi lipoproteinlar hamda yog‘ kislotalarining fraksiyalari o‘rganiladi, bu esa ateroskleroz va yurak ishemik kasalliklarining rivojlanish xavfini molekulyar darajada bashorat qilish imkonini beradi. Sorbentlarning tanlab olish qobiliyati shunchalik yuqoriki, hatto optik izomerlar — o‘ng va chap aylanuvchi molekulalarni ham ajratish mumkin, bu esa zamonaviy dori sintezida nojo‘ya ta’sirlarni keskin kamaytirishga xizmat qiladi. Zamonaviy xromatograflarning mass-spektrometrlar bilan integratsiyalashuvi (GX-MS, SSX-MS) esa "metabolomika" va "proteomika" kabi yangi fan sohalarining shakllanishiga turtki bo‘ldi, natijada bitta tahlil davomida bir necha minglab molekulalarni vaqt birligida skanerlash va ularning organizm gomeostazidagi o‘rnini belgilash imkoniyati yaratildi.

Xulosa: xromatografiya usuli zamonaviy tibbiy izlanishlarning tahliliy "yuragi" hisoblanadi. S. Alimxo‘jayev darsliklarida poydevor qilib qo‘yilgan bioorganik kimyo prinsiplari bugungi kunda raqamli va avtomatlashtirilgan xromatografik tizimlar orqali amalga oshirilmoqda. Ushbu usulning qo‘llanilishi diagnostika aniqligini 99%-gacha oshirish, dori vositalarining xavfsizligini ta’minlash va inson organizmidagi murakkab molekulyar o‘zaro ta’sirlarni tushunish imkonini beradi. Kelajakda xromatografik texnologiyalarning yanada miniatyuralashishi (chipdagi laboratoriyalar) tibbiyotni yotoq boshi diagnostikasi (point-of-care testing) darajasiga olib chiqadi, bu esa har bir inson salomatligini molekula darajasida nazorat qilish garovidir.

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**SUYAK TO‘QIMASI GISTOFIZIOLOGIYASI: MINERALIZATSIYA
MEXANIZMLARI, REGENERATSIYA VA O‘SISHNI BOSHQARUVCHI
OMILLAR**

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Annotatsiya: Ushbu maqolada suyak to‘qimasining mineralashuvi, uning gormonal va vitaminli tartibga solinishi hamda turli patologik holatlarda yuzaga keladigan morfologik buzilishlar chuqur tahlil qilinadi. suyak va tog‘ay to‘qimalarining fiziologik va reparativ regeneratsiyasi, shuningdek, transplantatsiyasining zamonaviy jihatlari keng qamrovli yoritilgan. Tadqiqotda suyakning o‘sishi va mineral zichligiga ta’sir qiluvchi endogen hamda ekzogen omillarning molekulyar mexanizmlari, suyak to‘qimasining mikroskopik anatomiyasi, hujayraviy tarkibi va uning metabolik faolligini tushunishda nazariy-amaliy asos bo‘lib xizmat qiladi.

Kalit so‘zlar: Suyak to‘qimasi, mineralizatsiya, gidroksiapatit, reparativ regeneratsiya, osteoblast, osteoklast, epifizar tog‘ay, suyak transplantatsiyasi, osteon tizimi.

Kirish: Suyak to‘qimasi inson organizmidagi eng mustahkam va metabolik jihatdan faol tizimlardan biri bo‘lib, u nafaqat tayanch-harakat apparatining asosi, balki mineral moddalarning, xususan kalsiy va fosforning ulkan deposi hisoblanadi. Suyak to‘qimasi statik struktura emas, balki hayot davomida osteoblastlar va osteoklastlar faoliyati natijasida to‘xtovsiz yangilanib (remodellanib) turuvchi tirik tizimdir. Mineralashuv jarayoni — bu suyakning organik matritsasiga (ossein tolalariga) noorganik tuzlarning cho‘kish bo‘lib, u a’zoning mexanik pishiqligini va tashqi bosimlarga chidamliligini ta’minlaydi. Biroq, mineral almashinuvining har qanday buzilishi suyak strukturasining mikro-arxitektonikasini zaiflashishiga va uning

regenerativ imkoniyatlarining keskin pasayishiga olib keladi. Bugungi kunda suyak to'qimasining reparativ xususiyatlarini va uning o'sishiga ta'sir etuvchi genetik hamda gormonal omillarni o'rganish zamonaviy gistologiya, travmatologiya va ortopediya fanlarining poydevori hisoblanadi.

Asosiy qism: Suyak To'qimasining Morfofunktsional Tahlili

Suyak to'qimasining mineralashuvi murakkab biokimyoviy va hujayraviy jarayon bo'lib, u osteoblastlar tomonidan ajratiladigan gidroksiapatit kristallarining kollagen (ossein) tolalari orasiga tartibli ravishda o'rnatilishidan iborat. Bu jarayonda ishqoriy fosfataza fermenti hal qiluvchi rol o'ynaydi; u fosfat ionlarini to'qimaga jalb qilib, kalsiy fosfatning cho'kishini ta'minlaydi. Mineralizatsiya jarayoni faqatgina kalsiy to'planishi emas, balki organik va noorganik moddalarning o'zaro molekulyar bog'lanishidir.

Osteoblastlar o'zidan ajratgan matriks ichida qolib ketgach, ular osteotsitlarga aylanadi. Osteotsitlar suyakdagi maxsus lakunalarda joylashib, o'zining uzun o'simtalari orqali bir-biri bilan va qon tomirlar bilan bog'lanadi (kanalchalar tizimi). Bu anatomik tuzilish suyakning metabolik ehtiyojlarini qondirish va mexanik stressni sezish (mexanotransduksiya) imkonini beradi. Mineralashuvning buzilishi yoki demineralizatsiya jarayoni ko'pincha kalsiy, fosfor va D vitamini yetishmovchiligi natijasida yuzaga keladi. Bu esa bolalar organizmida raxit, kattalarda esa osteomalyatsiya (suyak yumshashi) va osteoporoz kabi og'ir morfologik o'zgarishlarga sabab bo'ladi. Suyakning mineral tarkibi buzilganda, uning mikroskopik trabekulalari yo'nalishi o'zgaradi va suyakning yuklamaga bardoshlilik yo'qoladi.

Suyak to'qimasining o'ziga xos xususiyati uning yuqori darajadagi regenerativ qobiliyatidir. Bu jarayon fiziologik (doimiy mikro-tiklanish) va reparativ (jarohatdan keyingi tiklanish) turlarga bo'linadi. Reparativ regeneratsiya jarayoni bir necha bosqichdan iborat bo'lib, birinchi bosqichda jarohat sohasida qon quyilishi (gematoma) hosil bo'ladi va periost (suyak usti pardasi) tarkibidagi kambial hujayralar shiddat bilan bo'linishni boshlaydi. Proosteoblastlar osteoblastlarga aylanib, dastlab birlamchi "suyak qadog'i" (callus)ni hosil qiladi. Ushbu qadog' dastlab tolali tog'ay to'qimasidan iborat bo'lib, keyinchalik u qattiq lamellar (plastinkasimon) suyakka aylanadi. Bu jarayonda osteoklastlar (ko'p yadroli yirik hujayralar) ortiqcha suyak to'qimasini so'rib tashlab, suyakning asl anatomik shaklini tiklashda qatnashadi. Tog'ay to'qimasining regeneratsiyasi esa suyakka nisbatan sustroq kechadi, chunki u

yerda qon tomirlar tarmog'i mavjud emas va oziqlanish diffuziya yo'li bilan amalga oshadi.

Suyakning o'sishi va mineral zichligi bir qator endogen va ekzogen omillar nazorati ostida bo'ladi. Suyakning bo'yiga o'sishi epifizar tog'ay plastinkasi (metafiz) hisobiga, eniga o'sishi esa periostning osteogen qavati hisobiga amalga oshadi. To'tayev bu jarayonda vitaminlar va gormonlarning rolini alohida ko'rsatib o'tgan. Masalan, A vitamini osteoblastlar va osteoklastlar muvozanatini saqlasa, C vitamini kollagen tolalarining pishiqligini (ossein sintezini) ta'minlaydi. D vitamini esa ichakdan kalsiyni so'rilishi va uning suyakka o'rnatilishi uchun zarurdir.

Gormonlar orasida somatotrop (o'sish gormoni) epifizar tog'ay hujayralarining bo'linishini tezlashtirsa, paratgormon kalsiyni suyakdan qonga chiqarish (rezorbsiya) orqali mineral muvozanatni tartibga soladi. Kalsitonin gormoni esa aksincha, kalsiyni suyak to'qimasida saqlab qolishga xizmat qiladi. Transplantatsiya masalasida "suyak induksiyasi" tushunchasiga katta e'tibor berilgan; olimlarning fikricha, suyak transplantati tarkibidagi oqsillar (bone morphogenetic proteins - BMP) atrof-muhitdagi mezenximal hujayralarni osteoblastlarga aylanishga majbur qiladi, bu esa transplantatning muvaffaqiyatli bitib ketishini ta'minlaydi.

Xulosa: Suyak to'qimasi murakkab mineral-organik muvozanatga asoslangan, doimiy o'zgaruvchan tirik a'zodir. Suyak mineralizatsiyasi va regeneratsiyasi o'zaro uzviy bog'liq jarayonlardir. Suyakning o'sishi, uning mineral zichligi va tiklanish tezligi organizmning umumiy metabolik, endokrin va vitamin holatiga bevosita bog'liq. Suyak va tog'ay to'qimalarining gistofiziologik qonuniyatlarini chuqur o'rganish nafaqat nazariy anatomiya, balki zamonaviy transplantologiya, regenerativ tibbiyot va klinik ortopediyada yangi va samarali davolash usullarini ishlab chiqishda fundamental ahamiyatga egadir.

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**NERV TOLASINING GISTOFIZIOLOGIYASI: IMPULS O'TKAZISH
MEXANIZMLARI, DEGENERATSIYA VA REGENERATSIYANING
MORFOFUNKSIONAL ASOSLARI**

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Annotatsiya: Ushbu ilmiy maqolada nerv tizimining asosiy funksional birligi bo'lgan neyronlarda impuls hosil bo'lishi va uning nerv tolalari bo'ylab tarqalish mexanizmlari chuqur tahlil qilinadi. Tadqiqotda nerv-mushak uchlarining (sinapslarning) ultrastrukturaviy tuzilishi, mediatorlar almashinuvi va nerv impulslarining o'tish jarayonidagi biofizik hodisalar neyromorfologik nuqtai nazardan yoritilgan. Shuningdek, maqolada nerv tolalarining turli jarohatlar natijasida kelib chiqadigan degeneratsiyasi (Valler degeneratsiyasi) va keyingi tiklanish (regeneratsiya) jarayonlari gistologik hamda anatomik jihatdan keng ko'lamda ko'rib chiqiladi. Maqola nerv tizimi fiziologiyasi va klinik nevrologiya sohasidagi tushunchalarni boyitish uchun nazariy-amaliy manba bo'lib xizmat qiladi.

Kalit so'zlar: Neyron, akson, nerv-mushak sinapsi, mediator, miyelin parda, Ranvye bo'g'ini, Valler degeneratsiyasi, Shvann hujayralari, neyrolemma, aksoplazmatik transport.

Kirish: Inson organizmidagi barcha a'zolar faoliyatini muvofiqlashtirish va tashqi muhit bilan uzviy bog'lanish nerv tizimi orqali amalga oshadi. Nerv tizimining bu murakkab funksiyasini ta'minlovchi asosiy jarayon — nerv impulsining hosil bo'lishi va uzatilishidir. Neyronlar ixtisoslashgan hujayralar bo'lib, ular qo'zg'alishni qabul qilish, qayta ishlash va aksonlar orqali boshqa hujayralarga yetkazish qobiliyatiga ega. Nerv tolalari shunchaki "o'tkazgich simlar" emas, balki murakkab metabolik va ultrastrukturaviy tizimdir. Nerv tolasi bo'ylab impulsning o'tishi uning qobiqli (miyelinli) yoki qobiqsiz (miyelinsiz) ekanligiga bevosita bog'liq bo'lib, bu jarayon organizmning harakat va sezgi funksiyalarining tezkorligini belgilaydi. Nerv

tolasining har qanday jarohati uning butun zanjirining uzilishiga olib keladi, bu esa tibbiyotda degeneratsiya va regeneratsiya muammolarini o'rganishni dolzarb qiladi.

Asosiy qism: Nerv Tolasining Morfofunktsional Tahlili

Neyronlarda impuls hosil bo'lishi va uning tarqalishi hujayra membranasining bioelektr xususiyatlariga tayanadi. Tinchlik holatida neyron membranasini polyarlangan bo'lib, uning tashqi yuzasi musbat, ichki yuzasi esa manfiy zaryadga ega. Ta'sir kuchi qo'zg'alish chegarasiga yetganda, membranadagi natriy (Na^+) kanallari shiddat bilan ochiladi va ionlarning hujayra ichiga oqib kirishi natijasida depolarizatsiya yuzaga keladi. Bu jarayon harakat potensialini (nerv impulsini) hosil qiladi.

Miyelinli nerv tolalarida bu impuls butun akson bo'ylab emas, balki faqat Ranvye bo'g'inlari deb ataladigan miyelinli sohalar orqali "sakrash" (saltator) usulida tarqaladi. Miyelin parda nafaqat izolyator, balki aksondagi metabolik jarayonlarni ta'minlovchi trofik tuzilmadir. Saltator o'tkazuvchanlik impuls o'tkazish tezligini sekunda 120 metr gacha oshirish imkonini beradi, bu esa organizmning tashqi ta'sirlarga lahzalik javob qaytarishini ta'minlaydi.

Nerv tolasining ichki qismida aksoplazmatik transport deb ataladigan jarayon uzluksiz davom etadi. Bu jarayon orqali neyron tanasida sintezlangan oqsillar, fermentlar va mediatorlar akson uchi tomon (anterograd) yoki aksincha (retrograd) harakatlanadi. Aksoplazmadagi mikronaychalar va neyrofibrillalar bu transportning "rels"lari vazifasini o'taydi. Nerv jarohatlanganda, aynan shu transport tizimining buzilishi distal qismning o'limiga sabab bo'ladi.

Impulsning nerv tolasi ichidan ishchi a'zoga, xususan skelet mushagiga o'tishi nerv-mushak sinapsi orqali amalga oshadi. Sinaps presinaptik membrana (akson terminali), sinaptik yoriq va postsinaptik membranadan (mushak tolasi motor plastikasi) iborat. Nerv impuls terminalga yetib kelganda, kalsiy (Ca^{2+}) kanallari ochiladi va mediator (asetilxolin) saqlovchi pufakchalarning sinaptik yoriqqa chiqishini stimullaydi. Asetilxolin mushak hujayrasidagi receptorlar bilan bog'lanib, mushak qisqarishiga sabab bo'ladigan bioelektr jarayonni boshlab beradi. Nerv tolasi yaxlitligi buzilganda (kesilganda yoki ezilganda), unda Waller degeneratsiyasi deb ataladigan qaytmas jarayonlar boshlanadi. Bu jarayon jarohat nuqtasidan distal (tanadan uzilgan) qismga qarab tarqaladi. 24-48 soat ichida akson va uning atrofidagi miyelin parda parchalana boshlaydi. Shvann hujayralari (neyrolemotsitlar) o'zining miyelin ishlab chiqarish funksiyasini to'xtatib, makrofaglar bilan birgalikda parchalangan to'qima qoldiqlarini fagotsitoz qiladi. Natijada akson o'rnida bo'sh

naycha — "Shvann naychasi" qoladi. Proksimal qismda ham bir necha Ranvyne bo'g'inigacha bo'lgan masofada birlamchi degeneratsiya kuzatiladi, biroq neyron tanasidagi tigroid moddasining parchalanishi (xromatoliz) tiklanish jarayonining boshlanganidan darak beradi. Regeneratsiya (tiklanish) jarayoni Shvann hujayralarining shiddatli bo'linishi bilan boshlanadi. Ular distal naychada maxsus yo'naltiruvchi zanjir hosil qiladi. Neyron tanasidan chiqayotgan yangi akson o'simtalari (o'sish konuslari) kuniga taxminan 1-3 mm tezlikda ushbu naycha bo'ylab o'sa boshlaydi. Nerv tolasi tiklanishi uchun aksonning distal uchiga gormonlar va o'sish faktorlari (NGF) ta'sir qilishi zarur. Agar akson o'zining asl yo'nalishini topsa va ishchi a'zoga yetib borsa, Shvann hujayralari uning atrofini qaytadan miyelin parda bilan o'raydi (remiyelinatsiya). Bu jarayonning samaradorligi jarohatning xususiyatiga bog'liq: kesilgan jarohatlarda tiklanish qiyinroq kechadi, chunki aksonlar adashib "neyroma" hosil qilishi mumkin.

Xulosa: Nerv tolalarining morfofunktsional butunligi organizmning yagona boshqaruv tizimi sifatida ishlashi uchun asosdir. Impuls o'tkazishning saltator mexanizmi evolyutsion jihatdan yuqori darajadagi moslashuv bo'lib, axborot almashinuvini maksimal tezlashtiradi. Degeneratsiya va regeneratsiya jarayonlarini o'rganish shuni ko'rsatadiki, periferik nerv tizimi yuqori darajada tiklanish qobiliyatiga ega, biroq bu jarayon Shvann hujayralarining va neyron tanasining hayotiyiligiga, shuningdek, aksoplazmatik transportning qayta tiklanishiga bevosita bog'liq. N. Ahmedov asarlarida ta'kidlanganidek, nerv regeneratsiyasini boshqarish va neyro-mushak aloqalarini tiklash zamonaviy neyroxirurgiya va rehabilitatsiyaning istiqbolli yo'nalishi bo'lib qolmoqda.

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TALABALARDA MA'NAVIY KOMPETENTLIKNI RIVOJLANTIRISH

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Annotatsiya

Mazkur maqolada oliy ta'lim muassasalari talabalarida ma'naviy kompetentlikni shakllantirish va rivojlantirishning pedagogik mexanizmlari tahlil qilinadi. Ma'naviy kompetentlikning mazmuni, tarkibiy qismlari, uni rivojlantirishga xizmat qiluvchi ta'limiy muhit, interfaol metodlar hamda tarbiyaviy texnologiyalar yoritiladi. Shuningdek, ma'naviy kompetentlikni rivojlantirishda o'qituvchining roli va ta'lim jarayonini tashkil etishning samarali yo'llari ko'rsatib beriladi.

Kalit so'zlar: ma'naviy kompetentlik, qadriyatlar, tarbiyaviy jarayon, pedagogik mexanizm, oliy ta'lim, shaxs rivoji, interfaol metodlar.

KIRISH

Globallashuv, axborot oqimining keskin ortishi va ijtimoiy transformatsiyalar sharoitida yoshlarning ma'naviy barkamolligini ta'minlash dolzarb masalaga aylandi. Zamonaviy ta'lim tizimi nafaqat bilim berish, balki shaxsning ma'naviy, axloqiy va ijtimoiy yetukligini shakllantirishni ham o'z oldiga maqsad qilib qo'yadi. Shu bois talabalarda ma'naviy kompetentlikni rivojlantirish oliy ta'limning ustuvor vazifalaridan biridir.

Axloqiy kompetentsiyani rivojlantirish muammosi bugungi kunda har qachongidan ham muhimroqdir. Talabalar bilim olishlari va pedagogik jarayonning mohiyatini chuqur anglab olishlari kerak. O'qituvchi ham olim, ham tarbiyachidir. Birinchisi katta salohiyatga ega, bu esa o'qituvchilarning ixtisoslashtirilgan, tizimli tayyorgarligi bilan izohlanadi. Ikkinchisi esa unchalik aniq emas, chunki u odatda hayot va pedagogik tajriba orqali o'zlashtiriladi. Oliy ta'limning yangi vazifalari o'qitishda professionallikni tobora ko'proq talab qilmoqda, uning eng muhim tarkibiy qismlaridan biri axloqiy komponent hisoblanadi. Buning sababi shundaki, zamonaviy jamiyatda ishlab chiqarish va iste'mol odamlarning munosabatlarini bir narsa bilan boshqa narsaga almashtirmoqda. Odamlarda insonga yoqadigan his tuyg'ularni tushunish qiyinlashadi va doimiy ishonchsizlik hissi paydo bo'ladi, bu esa o'qituvchi-

shogird tizimidagi o‘zaro munosabatlarning samaradorligini keskin pasaytiradi. Bolalar odamlarning boshqalar bilan o‘zaro munosabatini rad etish va o‘zlarining befarqligini oshirish orqali ushbu ichki inqirozni hal qilishga va barqarorlikni saqlashga harakat qilishadi. Bolalarning qo‘polligi asta-sekin insoniy munosabatlarni quritib, doimiy janjal va nizolarning paydo bo‘lishiga olib keladi. “Axloqiy barqarorlik” tushunchasi aniqlandi: axloqiy barqarorlikni shaxsning noqulay tashqi omillardan nisbiy mustaqilligi ta‘minlanadigan va mavjud sharoitlarda harakat qilib, ular axloqiy xulq-atvor tamoyillari, normalari va qoidalariga amal qiladigan, nafaqat salbiy ta‘sirga qarshi turishga, balki vaziyatlarga faol ta‘sir ko‘rsatishga, ichki va tashqi dunyosini o‘zgartirishga qodir bo‘ladigan rivojlanish bosqichi sifatida tavsiflash mumkin. Bu shaxsning ijobiy umuminsoniy va professional qadriyatlarga muvofiq xulq-atvorni tanlash qobiliyatidir.

Talabalarni ma‘naviy-axloqiy kompetentligini rivojlantirish, mazkur vazifani amalga oshirishda milliy pedagogik merosga murojaat qilish, xususan, jadid ma‘rifatparvarlarining ta‘lim-tarbiya haqidagi ilg‘or g‘oyalaridan foydalanish alohida ahamiyat kasb etadi. Birinchi Prezidentimiz ta‘kidlaganidek, “O‘z tarixini bilmagan va o‘tmishini unutgan millatning kelajagi yo‘q” iborasi to‘g‘ri, chunki tarix millatning kimligini, qayerdan kelganini va qayerga ketayotganini ko‘rsatuvchi yo‘l xaritasi, uni unutish esa o‘zlikni yo‘qotish, xato-kamchiliklardan saboq olmaslik va tanazzulga yuz tutish demakdir. Tarixiy xotira va bilim xalqni birlashtiradi, ularga kuch beradi va yangi davlatlar bunyod etishda poydevor bo‘ladi. – shu nuqtai nazardan, xalqimiz tarixi va madaniy merosidagi boy tarbiya an‘analarini bugungi ta‘lim jarayoniga singdirish komil inson tarbiyasida muhim rol o‘ynaydi. Jadidchilik pedagogikasi aynan shunday boy meros bo‘lib, jadid adib va pedagoglari o‘z asarlarida yosh avlodni ma‘naviy yuksak shaxs etib tarbiyalashga xizmat qiluvchi ko‘plab fazilatlarini tarannum etgan. Ularning didaktik asarlarida ifodalangan saxovatlik, halollik, insonparvarlik, do‘stlik, vatanparvarlik, mehnatsevarlik, sabr qanoatlilik, xushmuomalalik, mardlik, e‘tiqodlilik, adolatlilik, sadoqat, yurtga muhabbat, ijodkorlik, zukkolik kabi milliy va umuminsoniy fazilatlarini har bir yosh ongiga singdirish ma‘naviy tarbiyaning asosiy talabi sifatida ilgari surilgan. Shu sababli, mazkur maqolada jadidchilik pedagogikasiga tayangan holda talabalarning ma‘naviy-axloqiy kompetentligini rivojlantirishga qaratilgan innovatsion pedagogik mexanizmni takomillashtirish yo‘llari yoritiladi. Xususan, mamlakatimiz oliy ta‘lim tizimida barcha yo‘nalish talabalari uchun “Jadidlar merosi” nomli maxsus fan joriy etish taklifi ham aynan shu g‘oyadan kelib chiqqan bo‘lib, zamonaviy ta‘limni milliy tarbiya qadriyatlari bilan boyitish maqsadini ko‘zlaydi.[5]

Ma'naviy kompetentlik – bu shaxsning milliy va umuminsoniy qadriyatlarga asoslangan holda to'g'ri qaror qabul qilish, jamiyatda mas'uliyat bilan yashash, ijtimoiy munosabatlarda axloqiy mezonlarga amal qilish qobiliyatidir.

Ma'naviy kompetentlikning tarkibiy tuzilmasi

Talabalarda ma'naviy kompetentlik quyidagi komponentlardan iborat:

1. **Qadriyatli komponent** – milliy va umuminsoniy qadriyatlarga hurmat.
2. **Kognitiv komponent** – ma'naviyat, axloq, madaniyat haqidagi bilimlar.
3. **Emotsional komponent** – empatiya, hamdardlik, bag'rikenglik.
4. **Xulqiy komponent** – ijtimoiy mas'uliyatli xatti-harakatlar.
5. **Refleksiv komponent** – o'zini tahlil qilish va baholash qobiliyati.

Talabalarda ma'naviy kompetentlikni rivojlantirishning pedagogik mexanizmlari

1. Ma'naviy yo'naltirilgan ta'lim muhitini yaratish

Ma'naviy kompetentlikni shakllantirish uchun oliy ta'lim muassasasida ijobiy psixologik va tarbiyaviy muhit yaratilishi zarur. Bunda:

- talaba shaxsiga hurmat,
- hamkorlikka asoslangan muloqot,
- erkin fikr bildirish imkoniyati muhim ahamiyat kasb etadi.

2. Integrativ yondashuv

Ma'naviy tarbiya alohida fan bilan cheklanib qolmasdan barcha fanlar mazmuniga integratsiya qilinishi lozim.

Masalan:

- pedagogika – kasbiy etikani shakllantiradi;
- tarix – milliy o'zlikni anglashni rivojlantiradi;
- adabiyot – axloqiy qadriyatlarni singdiradi.

3. Interfaol pedagogik metodlardan foydalanish

Ma'naviy kompetentlik faol ishtirok orqali shakllanadi. Eng samarali metodlar:

- munozara va debatlar
- rolli o'yinlar
- muammoli vaziyatlar tahlili
- loyiha metodi
- refleksiya mashg'ulotlari

Bu metodlar talabalarning mustaqil fikrlashi va axloqiy tanlov qilish ko'nikmalarini rivojlantiradi.

4. Tarbiyaviy faoliyatni ta'lim bilan integratsiya qilish

Talabalarning:

- ijtimoiy loyihalarda ishtiroki
- volontyorlik faoliyati
- madaniy-ma'rifiy tadbirlar

ma'naviy kompetentlikni rivojlantirishning samarali vositalaridir.

5. Refleksiya va o'z-o'zini rivojlantirish mexanizmi

Talaba o'z xatti-harakatlarini tahlil qila olishi muhim. Buning uchun:

- refleksiv kundaliklar
- esse yozish
- o'zini baholash mashqlari

qo'llaniladi.

6. O'qituvchining shaxsiy namunasi

O'qituvchi:

- ma'naviy yetuk,
- adolatli,
- bag'rikeng,
- kommunikativ bo'lishi zarur.

Chunki pedagog shaxsiy namunasi tarbiyaviy ta'sirning eng kuchli omilidir.

Ma'naviy kompetentlikni rivojlantirish texnologiyalari

1. Muammoli ta'lim texnologiyasi
2. Loyiha asosida o'qitish
3. Hamkorlikda o'qitish
4. Servis-learning (ijtimoiy xizmat orqali o'qitish)
5. Trening va seminarlar

Kutilayotgan natijalar

Pedagogik mexanizmlar samarali qo'llanilganda talabalar:

- ijtimoiy mas'uliyatli bo'ladi;
- tolerantlik va bag'rikenglik rivojlanadi;
- fuqarolik pozitsiyasi shakllanadi;
- kasbiy etikaga amal qiladi;
- o'zini rivojlantirishga intiladi.

Xulosa

Talabalarda ma'naviy kompetentlikni rivojlantirish uzluksiz, tizimli va kompleks pedagogik jarayonni talab qiladi. Ta'lim mazmunini ma'naviy qadriyatlar bilan boyitish, interfaol metodlardan foydalanish va ijtimoiy faoliyatni kengaytirish ushbu

jarayonning samaradorligini ta'minlaydi. Oliy ta'lim muassasalari ma'naviy yetuk, ijtimoiy faol va mas'uliyatli mutaxassislarni tayyorlashda muhim o'rin tutadi.

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MODERNIZATION OF THE NATIONAL SYSTEM OF PREVENTION OF YOUTH OFFENSES IS A REQUIREMENT OF THE PERIOD

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Annotation: *the thesis covers the theoretical–practical basis for transferring the Prevention of youth offenses from the traditional "reactive" model (punishment after an incident) to the proactive, risk-based and "scientific conclusion—recommendation—result" logic within the framework of resolution PD-1 of January 5, 2026. Social Prevention, which relies on digital transformation and community-family-education, as well as restorative mechanisms, are justified as tools to increase institutional efficiency.*

Keywords: *youth offenses; social prevention; PD-1; proactive approach; risk-factors; "e-social Prevention"; "e-conflict Family"; evidence-based analysis; restorative justice; diversion; social rehabilitation.*

The decision of the president of the Republic of Uzbekistan "on additional measures aimed at introducing a holistic system of work in the direction of creating a safe environment in the neighborhoods of the Republic", adopted on January 5, 2026 at a new stage of Youth Policy and strategy for ensuring public safety in the Republic of Uzbekistan, PD-1. The decision sets the tasks of drastically reducing crime through targeted preventive measures as the central focus of prevention, as well as analyzing the "original factors" of crimes committed by young people on the basis of a scientific approach and establishing mechanisms for premature prevention.

An important methodological innovation of this document is that it creates a normative "framework" for transferring preventive activities from a traditional "reactive" (application of measures of influence after the event) model to a proactive (early prevention, risk-based intervention, prognosis) model. This transition is first institutionalized through the "scientific conclusion — recommendation — result" principle enshrined in the decision. Also, in crimes committed by women and young people, a targeted scientific and practical study should be carried out on the crime scene, followed by effective organizational and legal measures.[1]

At the same time, it is not a secret that in the context of globalization and digital transformation, the determinants of youth offenses become multifaceted. In particular, along with traditional factors such as family environment dysfunction, interruptions in education and employment trajectories, risks in the digital environment (online manipulation, cybersecurity's "victim-performer" chain, deviant online behavior models, information Impact) are increasing in importance. This trend indicates the need to organize youth work not only within the framework of a criminal justice reaction, but also in the logic of premature intervention and multi-sector (multisectoral) prevention. The global relevance of such an approach is also reflected, in particular, in the data of the World Health Organization. According to this information, the scale of annual murders among 15-29 years old is high globally, making the issue of the safety of this age category one of the objects of complex prevention.

Also, the institutional-practical mechanism of the PD–1 decision" on additional measures aimed at implementing a holistic address system in the direction of creating a safe environment in the neighborhoods of the Republic is also characterized by the establishment of a diagnostic-intervention-assessment cycle in prevention. In accordance with the resolution, in 2026, the territories will be nominally attached to responsible leaders and institutions; in particular, it is established that neighborhoods that remain in the "red" category for three years will be attached to educational and scientific organizations of law enforcement agencies. This norm aims to reduce the break between theory and practice by shaping preventive decisions on the basis of analysis and empirical data that rely on evidence (evidence-based) rather than on "intuitive" or purely administrative management instruments.

This mechanism can also be assessed as scientifically-theoretically consistent with a "problem-oriented approach". The SARA (Scanning–Analysis–Response–Assessment) model, widely used within Problem–Oriented Policing in foreign practice, defines problem identification, causal factor analysis, application of targeted measures, and outcome assessment as a systematic management cycle. The principle of this decision "scientific conclusion — recommendation — result" is close to this logic:

1. scientific conclusion-opening of the criminogenic profile and risk Factors of the neighborhood on the basis of evidence;
2. recommendation-roadmaps for preventive subjects, standard operation algorithms, addressable interventions;
3. the result is an assessment of efficiency not only by the "volume of work", but also by a decrease in risk factors and changes in the dynamics of crime.

The decision is also methodologically significant in that the direction of digital transformation is set separately: the introduction of modern information and communication and artificial intelligence technologies to the premature prevention of violations in the neighborhoods, as well as the widespread introduction of an electronic control system over the effectiveness of measures taken by the subjects of social prevention. This, in turn, enhances the possibility of finding a decision on the principle of "unified information — unified analysis — unified accountability" in preventive management, reducing subjectivity in decision-making and measuring the consequentiality of interventions.

Finally, the logic of this modernization is also consistent with international standards. The UN Guidelines for the Prevention of juvenile delinquency define prevention as an integral part of the Prevention of general crime in society, noting that the participation of the whole society, especially those programs that rely on education, family and community, is a priority. It is also argued that formal social control institutions should be used as a "last resort". Therefore, the practice of attaching scientific organizations to "red" neighborhoods of the PD-1 decision "on additional measures aimed at introducing a holistic system of targeted work in the direction of creating a safe environment in the neighborhoods of the Republic" can be assessed at the national level as a systemic step based on evidence, aimed at institutional strengthening of complex and collective preventive culture.[2]

Indeed, today it is difficult to imagine the Prevention of youth offenses in the XXI century outside of digital technologies. Because some of the youth criminogenic risks have shifted from the traditional social environment (family, education, employment) to the digital environment (online deviations, cybermanipulation, threatening effects on the internet), and the prevention mechanism should also be based on scientific-analytical and digital monitoring in accordance with this transform. In this regard, the decision of the president of the Republic of Uzbekistan PD-1 of January 5, 2026 established as a priority the task of strengthening preventive activities through modern information and communication and artificial intelligence technologies, as well as electronic control tools, along with the institutional reconfiguration of the system of ensuring a safe environment in the neighborhoods. Also, by this decision, the requirement to "set quarterly address measures in the section of neighborhoods" and to attach the leaders responsible for their implementation serves to exclude prevention from the general propaganda format and transfer it to the address (targeted) management model .

Also, one of the important innovations of this decision is the task of introducing the Information System "e — social prevention", capable of collecting, analyzing and monitoring information about "conflict families" in order to prematurely prevent crimes committed within the framework of family-marriage relations. This norm strengthens the principle of taking preventive decisions not on the basis of intuitive-administrative decisions, but on the basis of data and analysis.

From a scientific point of view, this approach is in harmony with the ideas of "data-driven policing/ data-driven decision making", which are widely discussed in international practice. And the identification of these risk factors becomes the main decision-making infrastructure of the database and analytical tools in the correct allocation of resources and targeted planning of intervention. In this sense, the "e-social prevention" system shapes the digital outline of prevention in national practice, giving impetus to the prioritization of evidence-based criteria in the decision-making process. In fact, today the family environment occupies a special place in the determinants of youth offenses. In particular, in the first section of the decision "On additional measures aimed at implementing a holistic address system in the direction of creating a safe environment in the neighborhoods of the Republic", called "goals and priorities", the task of "analyzing the original factors of crimes committed by women and young people in the framework of Family-Life relations and on the basis of scientific logics of this modernization is also consistent with international standards. The UN Guidelines for the Prevention of juvenile delinquency define prevention as an integral part of the Prevention of general crime in society, noting that the participation of the whole society, especially those programs that rely on education, family and community, is a priority. It is also argued that formal social control institutions should be used as a "last resort". Therefore, the practice of attaching scientific organizations to "red" neighborhoods of the PD-1 decision "On additional measures aimed at introducing a holistic system of targeted work in the direction of creating a safe environment in the neighborhoods of the Republic" can be assessed at the national level as a systemic step based on evidence, aimed at institutional strengthening of complex and collective preventive culture.

The same task is also decided as a means of practical provision

It is not a secret that in the system "e-social prevention" measures were established to introduce the module "e-disputed family", as well as to directly integrate the module in question with the courts. This means, on the one hand, the systematic collection and monitoring of information on conflict families, and on the other hand, the institutionalization of interagency information exchange. As a result, the subject of

prevention (for example, the preventive inspector, the responsible in the neighborhood) will be able to prematurely see the risk group and apply a targeted intervention plan with the family and children.

Scientific-methodologically, there is a potential that brings this mechanism closer to "Early warning" Systems. This makes it possible to anticipate recurrent conflict and escalation indicators by regularly collecting data, analyzing them in a risk-factor cross section (of course, at this stage, personal data protection, legal framework and ethical restrictions must be strictly ensured). The neighborhood also clearly defines the task of creating a digital communication infrastructure between the preventive inspector and the population. This indicates the need to develop and popularize the mobile application "my Inspector", which by November 1, 2026 allows citizens to communicate with the preventive inspector online, send photo-audio-video and "messages of concern", as well as evaluate the activities of the inspector.[3]

With this decision, the use of the mobile application is seen as a practical digital platform of the principle of Police (community policing), which relies not only on information exchange, but also on cooperation with the team. This serves to increase the accountability of the subjects of prevention, the speed of the appeal of the population, the possibility of fixing facts and the mechanism for assessing activities. It also sets as a priority the widespread implementation of ICT and artificial intelligence technologies, as well as an electronic control system over the effectiveness of measures taken in prevention, in order to prevent violations in public places in Mahalla areas prematurely. At the same time, the implementation of Territorial "Road Maps" is provided for continuous "strict control", including through an electronic control platform.

At this point, it is worth considering separately that the effectiveness of the prevention of youth offenses depends on the correct construction of the model of work "with whom" (object) and "in what institutional order" (cooperative of subjects). Today, the issue is approached in two directions in the PD-1 decision "On additional measures aimed at implementing a holistic address system in the direction of creating a safe environment in the neighborhoods of the Republic". These are:

- a) quarter planning of address work with risk-factors;
- b) aimed at the introduction of electronic control and a strict interrogation mechanism over the effectiveness of the activities of preventive subjects.

Also, today, each neighborhood has defined the task of developing and focusing on the implementation of quarterly address measures with "factors negatively affecting the criminogenic situation". This rule scientifically corresponds to the logic of risk

management, in which factors are first determined, then interventions are selected, then the result is evaluated.

At the same time, it is desirable that risk-factors be interpreted in the following blocks. These are:

- family-social factors (disputed family, decreased control, upbringing problems);
- educational-employment trajectory factors (interruption, unemployment);
- space-infrastructure factors (lack of control in public places, "hotspots");
- digital-information factors (deviations in cyberspace, online manipulation), this block can be justified by connecting it with ICT/AI and electronic control tasks in the decision.

The limitation of the reactive approach, in which "punishment" is a priority in the Prevention of youth offenses, is also emphasized in international standards. The UN guidelines for the prevention of violations among minors (Riyadh Guidelines) put forward the idea of organizing prevention in close connection with Community-Family-Educational Institutions, not over-involvement of the child in the criminal justice system and strengthening social prevention.[4]

In this regard, the decision of PD-1 "on additional measures aimed at implementing a holistic address system in the direction of creating a safe environment in the neighborhoods of the Republic"

Paragraph 11.1 defines specific mechanisms for working with young people in the "heavy category". This category includes young people under probationary supervision, with severe upbringing, preventive accounting, and pre-trial. When working with them, the following "five steps" strategy applies. These are:

At this point, it is worth noting for comparative analysis that today in some states (for example, in the Republic of Korea) there are official urban programs and analytical materials that the solutions of "intellectual CCTV" begin to use the functions of detecting abnormal (suspicious) movements in public places and warning the operator. Also discussed in the UK state is the practice of testing AI-analytic CCTV and real-time risk detection systems (including in transport infrastructure). This suggests that there are legal-ethical risks (proportionality, transparency, oversight) along with technical possibilities in digital prevention. Therefore, the introduction of AI and electronic control in the national system should be built in a balance of efficiency + legal guarantees.

1. Vocational training: training of unskilled young people in professions (through "Monocentres") that meet the requirements of the labor market.

2. Teaching foreign languages: preparing young people who want to go to migration for legal and safe migration.
3. Employment provision: placement or subsidization of vacancies through the base "E-social prevention".
4. Meaningful Organization of leisure: involvement in sports, culture and dog clubs.
5. Socio-household assistance: medical examination, provision of material assistance.

Unfortunately, as of January 28, 2025, statistics show that there are still no significant results in these areas. This meant the need to fully implement the system into faster practice and strengthen enforcement discipline.

The effectiveness of these tasks, in turn, the "neighborhood seven" (chairman, assistant governor, youth leader, Women's activist, preventive inspector, taxpayer, social worker) in the neighborhoods is the main driving force of the new system. In particular, the youth leader is assigned the following tasks:

- Formation of youth balance and identification of young people of the "red" category.
- * Organization of targeted activities within the framework of "social Prevention Week"
- Material incentives for youth leaders at the expense of the local budget in neighborhoods where the criminogenic situation has stabilized. This mechanism serves to increase the productivity of youth leaders .

From the above analyzes, today it is recognized that in the effective organization of the Prevention of youth offenses in New Uzbekistan, the restriction on relying only on a "punishment-oriented reactive" approach is recognized both in international standards and in the logic of national reforms. In this sense, resolution PD-1 of January 5, 2026 sets out mechanisms aimed at the early prevention of violations in neighborhoods, targeted work and the complex organization of social prevention, creating a normative-political framework for strengthening the paradigm of prevention "socialization–rehabilitation–intervention".

Restorative justice theory states that compensation for damages caused by an infraction, restoration of the victim's interest, and ensuring the offender's reintegration into society provide a stable outcome in reducing crime. The basic guidelines in the UN system determine whether restorative programs can be applied at different stages of the criminal justice system (in accordance with national legislation), while ensuring discretion, security, fairness, and procedural guarantees are required.

It follows from this that the institutional development of elements of a restorative approach in the conditions of Uzbekistan in the following three directions is desirable. These are:

First of all, the strengthening of the institution of reconciliation in the country (CC 661) with restorative content in the section of minors and the widespread introduction of mediation. In this case, the Institute for decriminalization on the basis of reconciliation in national legislation is established by Article 661 of the Criminal Code. From a scientific and practical point of view, it is necessary to enrich it with restorative content so that the work of minors does not remain at the level of "formal reconciliation" of this institution. In this, it is not the reconciliation with the victim itself that should be ensured, but in a comprehensive manner, compensation for the damage caused, apology, a behavior correction plan and orientation to social rehabilitation.

It is proposed to supplement article 661 of CC with new provisions of the following content:

1. "When a reconciliation is applied to a minor, the court (or the body in charge of the proceedings) sets the terms of the reconciliation in relation to the social rehabilitation plan; the rehabilitation plan is approved with the participation of the probationary body and social services."
2. "In cases where reconciliation is used, probationary control and psychological/social corrective measures are intended as mandatory elements in order to reduce the risk of re-infraction of a minor (risk-based approach)."

The execution mechanism of this proposal is carried out as follows. That is, the systematic use of explanations on the procedural standards on reconciliation (application, discretion, victim interest, evidence of damages) in order to uniformize judicial practice in reconciliation cases.

Secondly, the introduction of diversionary (diversionary) measures as a "formal program" on a Republican scale. In this, it is a mechanism aimed at reducing stigmatization and preventing re-infraction by extracting young people from the orbit of formal criminal justice (prosecution–judicial-punishment) at an early stage and applying educational and socio-rehabilitation measures to it. The launch of the innovation project in the Chilanzor District of the city of Tashkent as a pilot practice on diversion and restorative justice in Uzbekistan was noted in the Official Information of Unicef. [5]

- In harmony with the implementation of the PD-1 decision "on additional measures aimed at implementing a holistic address system in the direction of creating a safe environment in the neighborhoods of the Republic "(taking into account the presence

of an interdepartmental coordination architecture), it is proposed to adopt an interagency regulation" on the diversion program for Youth Affairs". The charter requires the following to be strictly defined:

1. cases in which diversion is applied (severity of Act, personality characteristics, victim presence, rhizolocity);
2. "alternative package" content. This includes public affairs, training, psychological correction, work with the family, education and professional orientation;
3. is a" case-management " algorithm, whereby direction → evaluation → intervention → monitoring → conclusion;
4. Child Rights guarantees. In this, the lawyer ensures the participation of the representative, voluntary, security, non-discrimination.

Thirdly, "institutional disconnection" (Education-Labor-family-re-entry into the community) increases the risk of re-infraction in adolescent youth returning from a penal institution or leaving a specialized boarding school. Therefore, the development of social rehabilitation centers as networks, which perform the function of a" bridge", is a strategic link of prevention.

In the system of the Ministry of Health, at the regional or district level, an exemplary regulation "on the Center for social rehabilitation for adolescents" was adopted, in which:

- a) package of services (psychological assistance, return to education, vocational guidance, employment, family counseling);
- B) "prevention-probation-education-social service " integration;
- c) individual rehabilitation plan and monitoring on each case;
- d) indicators of the result (re-infringement, return to education/work, repetition of disputed circumstances) should be established.

From the above scientific analyzes, it can be known that today the general conclusion on improving the Prevention of youth offenses is that the national system is moving from a reactive model relying on "punishment after the incident "based on the PD-1 decision "on additional measures aimed at implementing a holistic address system in the direction of creating a safe environment in Republican neighborhoods" to a proactive model In this model, the priority areas of prevention are early identification of risk factors (family, education-employment, Territorial-Infrastructure, digital environment), decision-making based on information through "e-social prevention", targeted work with "heavy category" youth in case-management procedures, as well as the institutionalization of restorative mechanisms (reconciliation, mediation, diversion) and social rehabilitation. The effect of these measures should not be due to the number

of events, but to a decrease in re-infraction, return to education/employment, and a decrease in the recurrence of family conflicts.

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5. *Изоҳ: “жазолаш” эмас, қайта ижтимоийлаштириш ва барвақт интервенцияга устуворлик бериб, ишни судгача ёки судсиз ҳал қилиш йўли. Note: it is not "punishing", it is the way to decide a case before or without trial, giving priority to re-socialization and premature intervention.*

TA'LIM JARAYONIDA MUSIQA TO'GARAKLARINI SHAKLLANTIRISH VA RIVOJLANTIRISHGA OID NAZARIY- PEDAGOGIK HAMDA PSIXOLOGIK ASOSLAR

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Annotasiya: Ushbu maqolada xorijiy ilg'or kompozitorlar tajribalarida Dmitriy Kabalevskiy va Karl Orff tomonidan taklif qilingan konsepsiyalar texnologiyasining musiqa to'garaglarini shakllantirishva rivojlantirishga oid nazariy- pedagogik va psixologik asoslari haqidagi ma'lumotlar bayon etilgan.

Kalit so'zlar: Kompozitor; psixologik; musiqa ijrochiligi; skripka cholg'u asboblari; diapazon; tovush xususiyatlari; ijro etish texnikasi; nota tizimida o'qitish; ansambl; orkestr; musiqa maktabi.

Аннотация: В статье на опыте передовых зарубежных композиторов рассматривается теория концептуальной технологии, предложенная Дмитрием Кабелевским и Карлом Орфом по формированию и развитию музыкальных кружков. представлена информация о педагогических и психологических основах.

Ключевые слова: Композитор; психологический; музыкальное исполнение; скрипичные инструменты; диапазон; звуковые характеристики; техника исполнения; обучение в системе обозначений; ансамбль; оркестр; музыкальная школа.

Musiqa ta'limida xorijiy ilg'or kompozitorlar tajribalari, ya'ni Dmitriy Kobalevskiy va Karl Orff tomonidan taklif qilingan kontsepsiyalar texnologiyasining musiqa to'garaglarini shakllantirish va rivojlantirishga oid nazariy- pedagogik va psixologik asoslari tendentsiyalari borasida bir qator fikr mulohazalar mavjud. Bu qarashlar avvalambor pedagogika va psixologiya fanlariga bog'liq jihatlari bilan ajralib turadi va ko'z o'ngimizda namoyon bo'ladi desak, aslo mubolag'a qilmagan bo'lamiz.

Pedagogika nuqtai nazaridan to'garak shaklining an'anaviy va zamonaviy mug'timedia texnologiyasidagi to'garak shakllarining ta'lim-tarbiya jarayoniga tatbiqi – ularga kompyuterlar asosida yangicha texnologik yondashuv hisoblanadi. Shuning uchun, to'garak turlarini shakllantirishdagi mul'timedia texnologiyasini o'ziga xos belgilari, xususiyatlari va tamoyillari mavjud: Asosiy belgilari-texnik vositalardan foydalanish, tarbiyalanuvchilarning bilimlarini aniqlash mezonlarini ishlab chiqish. Ta'lim samaradorligini oshirish, monitor ekraniga qarab va ekrandagi materiallardan foydalanib, bilim olishdan iborat. Mul'timedia texnologiyasidan ta'lim-tarbiya jarayonida foydalanish bir vaqtning o'zida bolalarning kompyuter savodxonliklarini shakllanishiga ham olib keladi.

Masalan, dialogli ta'lim texnologiyasida kompyuter – texnik vosita sifatida qaratiladi, mul'timediali kompyuter texnologiyasida esa, u ko'rgazmali vositadan tashqari "Ta'lim manbai" sifatida mujassamlanadi, ya'ni o'rganiladigan material oldindan kompyuter xotirasiga kiritilgan bo'ladi. Ushbu material o'qituvchi yo to'garak rahbarining an'anaviy usul bilan mashg'ulot o'tkazish bo'yicha tuzgan ishlanmasiga o'xshaydi.

To'garak rahbarlari kompyuter monitori ekranida namoyish etiladigan materiallaridan o'rgatib borsalar va yetarlicha ko'nikma hosil qilsalar, kelajakda maktabda yoki litseyda yoki oliy o'quv yurtida kompyuter ekranidan ma'lumotlarni qabul qilib olishga qiynalmaydilar.

Shu bilan birga, to'garak rahbarlarning kompyuterdan foydalanish jarayonida mantiqiy tafakkurlari rivojlanadi, bilim olishga havaslari va ishtiyoqlari ortadi, dunyoqarashlari kengayadi.

Psixologik jihatlar: Bolalarning yoshlarini va fikrlash darajalarini hisobga olish, bolalarning ta'lim materialini xotiralarida saqlash imkoniyatlarini hisobga olish, kompyuter bilan ishlaganda ko'z toliqishini oldini olish, bolalarning xotiralarini rivojlantirish, diqqatlarini barqarorlashtirish, ta'lim materiallariga qiziqishlarini orttirish, his-hayajonli hissiyot uyg'otish, kompyuterda ishlash qobiliyatlarini o'stirishlar, psixologik jihatlarni tashkil etadi.

Monitor ekranida tasvirni ko'rganda va o'qiyotganda bola miyasining ikkala yarim shari bir vaqtda ishlaydi va ob'ekt obrazi bir vaqtda qabul qilib olinadi.

Bu, ya'ni bolalarda miya faoliyatining differentsiyal qo'zg'alishi ong va ong osti harakatlarini kreativlik kompotentligini shaxs sifatida ob'ektiv va sub'ektivligi natijalari mu'timedialariga asoslanib shakllanishini tezlashtirilishiga olib keladi.

Ushbu masalalarga oid san'atshunos olimlardan S.Saidiy tadqiqotlarida 1990 yillardagi ong va ong osti harakatlar me'zonining differentsiyal psixoterapevtikasi va neyropsixologiyaning inson tanasidagi qo'zg'alish jarayonidagi natijalarining sub'ektiv va ob'ektiv hamda salbiy va ijobiy ko'rinishlarini psixologik jihatdan tashxislarda asoslab bergan. S.Saidiyning ilmiy nuqtai nazarini esa psixologiya fanlari doktori, Xalqaro psixologiya ilmiy akademiyasining haqiqiy a'zosi, akademigi, professor Sh.R.Barotov ham o'rganib ma'qullaganligi diqqatga sazovordir.

Animatsiyali ma'lumotlarning insonga ta'sirchanligi katta bo'lib, undan To'garak shaklidagi ta'lim-tarbiya jarayonida foydalanish, bolalarning diqqatlarini ko'proq jalb qilish xususiyatiga ega.

Multimedianing bir vaqtning o'zida ham ko'rish, ham eshitish orqali bilim olishning samarali ekanligi, hayotiy tajribada allaqachon sinovdan o'tgan. Masalan, xalqimizda bu to'g'risida "Yuz marta eshitgandan ko'ra, bir marta ko'rmoq yaxshi" degan maqoli bor. Psixologlar ham bir vaqtning o'zida ham ko'rish, ham eshitish orqali bilim berishda o'zlashtirish yuqori bo'lishini ta'kidlab kelmoqdalar.

Shuningdek, xorij pedagoglaridan Z.Koday, K.Orff, D.Kabalevskiy, Ya.A. Komenskiy, L.D.Ushinskiy, N.K.Krupskaya, L.S.Vigodskiy, A.P.Usova, I.Ya.Lerner, M.N.Skatkin va boshqalarning ishlari san'atga loyiqdir.

Karl Orffning besh tomlik "Shulverk.(Bolalar uchun musiqa)" tizimli antologiyasida bu masalalar o'z aksini to'gan. Bu konsepsiya shaxsga yo'naltirilgan improvizatsiya va ijodiy musiqiy ta'lim g'oyasiga asoslangan.

U konstruktiv va texnologik emas, balki musiqiy qobiliyatlarning uyg'onishi va rivojlanishiga hissa qo'shadigan badiiy va ijodiy vazifalarga qaratilgan. (Shulverk)nomi nemischa Werk (ish, kompozitsiya, ish), wirken (harakat qilish) vashulen (o'rganish) so'zlaridan kelib chiqqan. Orff buni "faoliyat jarayonida, ishda o'rganish", ya'ni uning elementlarini faol ijodiy o'zlashtirishda musiqani o'rgatish masalalariga qaratilgan.

"Shulverk" atamasi dunyoning ko'plab tillarida deyarli taniqli nomga aylandi, chunki u Karl Orffning musiqiy-pedagogik konsepsiyasining didaktik printsipini anglatadi-"biz bajarish va yaratish orqali o'rganamiz". Dunyoning 40 dan ortiq mamlakatlarida keng tarqalgan bo'lib, bizning

mamlakatimizda 80-yillarning boshlariga qadar bo'lgan, afsuski, bir qator ob'ektiv va sub'ektiv sabablarga ko'ra talab qilinmagan.

Men o'z darslarimda K.Orff va uning izdoshlari tomonidan taklif qilingan bolalar bilan ishlash texnikasi va usullaridan foydalandim. Shubhasiz, ushbu yo'nalish rus kompozitori, pedagog Dmitriy Borisovich Kabalevskiy musiqiy ta'limining umumiy konsepsiyasini amaliyotini-amalga oshirishda yordam beradi.

D.Kabalevskiy va K.Orff texnologiyasining asosiy yo'nalishi sinflarning o'yin modellari bo'lganligi sababli, ular maktabgacha va boshlang'ich maktabda eng maqbul ko'rinishlarni ko'rsatgan.

Malakalar, bilimlar va ko'nikmalar ko'p qirrali faoliyat jarayonida olinadi, ularning turlari quyidagilarni o'z ichiga oladi:

- Kuylash va musiqaga o'tish;
- og'zaki o'qish va ritmik mashqlar;
- ijrochilik amaliyotida musiqa nazariyasini o'zlashtirish va ekspresiv vositalarni modellashtirish;
- teatralizatsiya intonatsiya, ritmik, motorli birikma sifatida;
- musiqiy tarbiya;
- qadriyat munosabatini bosqichma-bosqich rivojlantirish bilan musiqa tinglash;
- boshlang'ich bolalar musiqa asboblari ijro etish va boshqalar.

Bugungi davr talablaridan biri K.Orf va D.Kabalevskiy buyuk kompozitorlar tomonidan taklif qilingan konsepsiyalar (tushunchalari)ni taqqoslash, ikkita yondashuvning kuchli tomonlarini ochib berish va zamonaviylikda bolalar musiqa ta'limi sohasida ochilishi mumkin bo'lgan istiqbollari qayd etiladi.

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ГЕСТАЦИОН ПИЕЛОНЕФРИТДА ОНА БУЙРАК УСТИ БЕЗИНИНГ ПАТОМОРФОЛОГИК ЖИҲАТЛАРИ.

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Аннотация: Гестацион пиелонефритда буйрак усти безидаги ўзгаришларни ўзига хослиги гиперфункционал кўрсаткичларини кучайиши, қонда глюкокортикоидларни ошиб кетиши, буйрак усти бези пўстлоқ қавати гломеруляр ва тутамли сохалари гипертрофияси аниқланади. Бу эса, шу сохадаги спангиоцитларни гипертрофияси, гиперплазияси, некробиозси, ёғли киритмаларга бойитилиши, капиллярларида тўлақонлик натижасида диапедез қон қуйилишига олиб келади. Оқибатда, буйрак усти безини функционал кучайиши кўринишидаги белгилар гиперортицизм юзага келиши, хомиладорларда Иценко Кушинг синдромини ривожланишига олиб келади.

Калит сўзлар: гестацион пиелонефрит, буйрак усти бези, хомиладорлик, патоморфология.

Тадқиқот мақсади: Гестацион пиелонефрит фонида она буйрак усти бези тўқимасида морфологик хос ўзгаришларини ўрганишдан иборатдир.

Муаммонинг долзарблиги. Дунё аҳолисида хомиладорлик даврида оғир оқибатлар билан тугалланадиган гестацион пиелонефритни учраш даражаси, жами хомиладорларни 5-10 % ни ташкил этиб, асоратланган хомиладорликда бу кўрсаткич 21,7% да учрайди. Осиё давлатларида гестацион пиелонефритни оғир кечишида ўртача 100 мингта хомиладорликда 35-45 та ҳолатда хомиладорлик жараёни тўхтатилади. American College of Obstetricians and Gynecologists (ACOG) 2020 йилдаги маълумотларига кўра, гестацион пиелонефрит асосан кескин континентал иқлим шароити мавжуд бўлган давлатларда учраши билан характерланиб, АҚШ да 100 мингта хомиладорликдан 1-1,5% да учраса, Буюк Британия ва Европа давлатларида бу патология 100 мингта хомиладорларга ўртача, 3,1-7,1% гача учрайди. Россия федерациясида 100 мингта хомиладорлардан 5-10%да учраса, МДХ давлатларида бу кўрсаткич 100 мингта

хомиладорлардан ўртача 3-15,5% гача бўлиб, тоғли ҳудудларда яшайдиган контингентда 21,3% гача аниқланади.

Гестацион пиелонефрит аниқланган аёлларда физиологик гравидар иммунодефицит ҳолатини потенцирлашда буйрак усти безининг морфофункционал кўрсаткичларини ҳам инобатга олганда, иккиламчи инфекцион фонда 33-38% ларда буйракларда оғир даражали вирусли ва бактериал пиелонефритни юзага келиши лимфоцитар етишмовчиликни кескин ривожланиши билан бевосита боғлиқ бўлади. Жумладан Ўрта Осиё давлатларида 2018-2022 йилларда гестацион пиелонефрит фонида эндокрин аъзоларни иккиламчи ўзгариши 100 та ҳомиладорликдан ўртача 16,8% да оғир ўзгаришлар билан намоён бўлиб, метаболик синдромлар билан кечиши аниқланган. Бу эса, ҳомиладорликда гестацион гипергликемия кўринишида намоён бўлади. Гестацион пиелонефритда буйрак усти безининг стрессор омилларга жавобан гиперфункцияси иммун тизимни депрессиясига олиб келиши, онада мавжуд бўлган иккиламчи инфекцион касалликларни кўзиши билан бирга, буйрак усти безида бир қатор клиник морфологик ўзгаришларни юзага келтиради. Натижада, метаболик синдромда пигмент алмашинуви, сув туз алмашинуви бузилиши натижасида қон босимини кўтарилиши, преэклампсия ва эклампсия билан бирга кечишини ўзаро интеграциялашуви ҳақида бир қанча маълумотлар О. В. Laurent ва бошқалар 2017 йилда ушбу концепцияни илгари сурган. Shkodkin S.V. ва бошқалар 2019 йида гестацион пиелонефритда метаболик синдромни ва преэклампсия жараёни потенцирланишини келтириб ўтишган. Бу эса, танланган мавзу бўйича, гестацион пиелонефритда буйрак усти бези дисфункцияси ва преэклампсия, эклампсия жараёнларини ўзаро боғлиқлиги юзага келадиган интеграл клиник морфологик талқинни яънада такомиллаштиришни тақозо этади.

Юқоридаги эпидемиологик маълумотларга асосланиб, айтиш мумкин ишимиз долзарблиги ва ўз вақтида танланганлигини кўрсатади. Бу эса, илмий тадқиқот ишимизни давлат миқёсида ўта долзарб ва муҳимлигини, она бола муҳофазасини химоя қилишда энг зарурий чора тадбирларни ишлаб чиқишни тақозо этиб, айтиш мумкин тадқиқот иши зарурлигини аниқлатади.

Натижа ва муҳокама: гестацион пиелонефритда ҳомиладор аёлларда юзага келган стрессор омилларга жавобан буйрак усти безининг функционал фаоллигини кескин ошиб кетиши бир вақтнинг ўзида ҳомиладорлик жараёнига, эндокрин тизимда кўзғалишларни кучайишига, глюкокортикоидларни гиперпродукцияси эса, физиологик гравидар иммунодефицит ҳолатини кескин

тушиб кетиши ва иккиламчи инфекцияларни юзага келишига олиб келади. Натижада, қон босимини тушиши ва бошқа гемодинамик бузилишлар буйрак усти беи пўстлоқ ва мағиз қаватларида қуйидаги ўзгаришлар билан намоён бўлади: симпатoadренал тизимнинг доимий қўзғалиши ва гиперпродукцияси катехоламинлар синтезини ошишига ва шу туркум хужайраларнинг (эпинефроцит ва норэпинефроцитлар) гиперплазиясига олиб келиши билан характерланади. Оч бўялган хужайралар эпинефроцитларнинг цитоплазмасида тўқ хроммафин киритмаларнинг кўплиги билан характерланади. Тўқ бўялувчи хужайралар норэпинефро-цитлар эса, цитоплазмасида ора ора жойлашган йирик гранула кўринишидаги хроммафин киритмаларнинг бўлиши, атрофида оч ва тўқ хужайраларнинг елкама елка жойлашганлиги билан ифодаланади. Мағиз қаватнинг майда ва ўрта калибрли томирларида тўлақонлик белгилари, нотекис оралик шишлар, капиллярларда тўлақонлик ва диапедез қон қуйилишлар, эритростаз ўчоқларининг бўлиши билан характерланади. Марказий вена тармоқларида тўлақонлик ва периваскуляр сохаларда такомил топаётган склероз ўчоқларининг бўлиши билан характерланади. Мағиз қавати стромасида хар хил контрастли толали тузилмаларнинг бўлиши, ораликда интерстициал шишлар сабабли атрофида капиллярларнинг эзилиши ва майда калибрли томирлар девори бўйлаб периваскуляр такомил топаётган склероз ўчоқларининг турли даражада ривожланганлиги аниқланади. Бу эса, беморни хаёт давомида сурункали дистресс синдроми ва хар хил даражада профилактика-даволаниш жараёнида бўлганлигини англатади. Жуда кўплаб синусоид капиллярларнинг ўзаро туташиб кетганлиги ва ораликда перисинусоидал бўшлиқларда сийрак толали тузилмаларнинг кўп бўлиши, склеротик жараёнлар давом этаётганлигини англатади. Натижада сурункали тўлақонлик оқибатида ривожланган диапедез қон қуйилиши ўчоқларида фокал гемосидероз ва сидерофагларнинг кам сонли ўчоқлари аниқланади.

Хулоса.

Гестацион пиелонефритда, глюкокортикоид продукциясини кучайиши, буйрак усти беи пўстлоқ ва тутамли сохаларида спангиоцитларни ёғли киритмаларга бойитилиши, капиллярлардаги тўлақонлик, диапедез қон қуйилиши, мағиз қаватида веноз тўлақонлик, оч хужайралар некробиози кучайганлиги аниқланди.

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YASHIL IQTISODIYOT VA BARQAROR RIVOJLANISH: IQTISODIY SAMARADORLIK OMILLARI

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Annotatsiya

Mazkur maqolada yashil iqtisodiyot konsepsiyasi va barqaror rivojlanish tamoyillarining iqtisodiy samaradorlikka ta'siri tahlil qilinadi. Tadqiqotda resurslardan oqilona foydalanish, ekologik muvozanatni saqlash, energiya samaradorligini oshirish hamda innovatsion texnologiyalarni joriy etishning iqtisodiy natijalari o'rganildi. Yashil iqtisodiyotga o'tish jarayonida yuzaga keladigan institutsional, moliyaviy va ijtimoiy omillar aniqlanib, iqtisodiy samaradorlikni belgilovchi asosiy mezonlar tizimlashtirildi. Tadqiqot natijalari barqaror iqtisodiy o'sish, ekologik xavfsizlik va ijtimoiy farovonlik o'rtasidagi o'zaro bog'liqlikni asoslashga xizmat qiladi.

Kalit so'zlar

yashil iqtisodiyot, barqaror rivojlanish, iqtisodiy samaradorlik, ekologik barqarorlik, energiya samaradorligi, resurs tejash, innovatsion texnologiyalar, yashil investitsiyalar

Аннотация

В статье анализируется влияние концепции зеленой экономики и принципов устойчивого развития на экономическую эффективность. Рассматриваются факторы рационального использования ресурсов, повышения энергоэффективности, внедрения экологически чистых технологий и их экономические результаты. Результаты исследования позволяют определить ключевые факторы экономической эффективности в условиях перехода к зеленой экономике.

Ключевые слова

зеленая экономика, устойчивое развитие, экономическая эффективность, энергоэффективность, экологическая устойчивость, ресурсоэффективность, зеленые инвестиции

Abstract

This article examines the relationship between green economy principles and sustainable development with a focus on economic efficiency factors. The study analyzes resource efficiency, environmental sustainability, energy efficiency, and the role of innovation. The findings highlight the key determinants of economic efficiency in the transition toward a green economy.

Keywords

green economy, sustainable development, economic efficiency, energy efficiency, environmental sustainability, resource efficiency, green investment

Kirish

Jahon iqtisodiyoti bugungi kunda ekologik muammolar, iqlim o'zgarishi, resurslar tanqisligi va atrof-muhit degradatsiyasi kabi global chaqiriqlar bilan yuzlashmoqda. An'anaviy iqtisodiy o'sish modeli ko'pincha tabiiy resurslarning haddan tashqari ekspluatatsiyasi, karbon emissiyalarining ortishi va ekologik muvozanatning buzilishi bilan kechmoqda. Shu sababli zamonaviy iqtisodiy tafakkurda "yashil iqtisodiyot" va "barqaror rivojlanish" tushunchalari strategik ahamiyat kasb etmoqda.

Yashil iqtisodiyot – bu iqtisodiy faoliyatni ekologik xavfsizlik, resurslardan samarali foydalanish va ijtimoiy adolat tamoyillari asosida tashkil etishga qaratilgan modeldir. Barqaror rivojlanish esa iqtisodiy, ekologik va ijtimoiy manfaatlar o'rtasidagi muvozanatni ta'minlashni nazarda tutadi.

Mazkur maqolaning dolzarbligi shundaki, iqtisodiy samaradorlik endilikda faqat ishlab chiqarish hajmi yoki foyda ko'rsatkichlari bilan emas, balki ekologik va ijtimoiy mezonlar bilan ham baholanmoqda. Tadqiqotning maqsadi – yashil iqtisodiyot sharoitida iqtisodiy samaradorlikni belgilovchi asosiy omillarni aniqlash va tizimlashtirishdir.

Asosiy qism

Yashil iqtisodiyot zamonaviy iqtisodiy taraqqiyotning muhim yo'nalishlaridan biri sifatida shakllanib, u iqtisodiy o'sish, ekologik muvozanat va ijtimoiy farovonlik o'rtasidagi uyg'unlikni ta'minlashga qaratilgan konseptual model hisoblanadi. An'anaviy iqtisodiy tizimlarda ishlab chiqarish hajmini oshirish ustuvor maqsad sifatida qaralgan bo'lsa, yashil iqtisodiyot sharoitida iqtisodiy samaradorlik tushunchasi kengroq mazmunga ega bo'lib, resurslardan oqilona foydalanish, ekologik zararlarni kamaytirish va uzoq muddatli barqarorlikni ta'minlash kabi omillar bilan chambarchas bog'lanadi. Shu bois iqtisodiy samaradorlikni aniqlashda faqat moliyaviy natijalar emas, balki ekologik va ijtimoiy ko'rsatkichlar ham muhim ahamiyat kasb etadi.

Yashil iqtisodiyot sharoitida iqtisodiy samaradorlik, avvalo, resurs samaradorligi orqali namoyon bo'ladi. Tabiiy resurslardan tejamkor foydalanish ishlab chiqarish xarajatlarini kamaytirish bilan birga, ekologik yuklamani ham pasaytiradi. Resurs samaradorligi iqtisodiy faoliyatning shunday shaklini anglatadiki, bunda minimal resurs sarfi evaziga maksimal natijaga erishish ko'zda tutiladi. Bu jarayonda xomashyo, energiya, suv va boshqa tabiiy boyliklardan oqilona foydalanish ustuvor

vazifa sifatida qaraladi. Resurslardan samarali foydalanish texnologik modernizatsiya, ishlab chiqarish jarayonlarini optimallashtirish hamda chiqindilarni kamaytirish orqali amalga oshiriladi. Natijada iqtisodiy samaradorlik nafaqat xarajatlarni qisqartirish, balki ishlab chiqarish barqarorligini oshirish orqali ham ta'minlanadi.

Energiya samaradorligi yashil iqtisodiyotning asosiy tayanch omillaridan biri hisoblanadi. Energiya iste'molini qisqartirish ishlab chiqarish tannarxini pasaytiradi, energiya resurslariga bo'lgan qaramlikni kamaytiradi va ekologik barqarorlikni mustahkamlaydi. Energiya samaradorligi texnologik yangilanishlar, energiya tejamkor uskunalarni joriy etish, qayta tiklanuvchi energiya manbalaridan foydalanish hamda boshqaruv tizimlarini takomillashtirish orqali erishiladi. Ushbu jarayon uzoq muddatli iqtisodiy foyda keltiradi, chunki energiya xarajatlari ko'plab tarmoqlarda asosiy xarajatlar tarkibiga kiradi. Energiya samaradorligining oshishi iqtisodiy faoliyatning raqobatbardoshligini kuchaytiradi, ishlab chiqarish jarayonlarining barqarorligini ta'minlaydi va investitsion jozibadorlikni oshiradi.

Innovatsion texnologiyalar yashil iqtisodiyotda iqtisodiy samaradorlikni ta'minlovchi muhim mexanizm sifatida maydonga chiqadi. Ekologik toza texnologiyalar ishlab chiqarish jarayonlarini optimallashtiradi, chiqindilarni kamaytiradi, resurslardan foydalanish samaradorligini oshiradi hamda mahsulot sifatini yaxshilaydi. Innovatsiyalar iqtisodiy tizimda yangi imkoniyatlar yaratadi, ishlab chiqarish samaradorligini oshiradi va barqaror rivojlanishga xizmat qiladi. Yashil texnologiyalarni joriy etish dastlab ma'lum investitsiya talab qilsa-da, uzoq muddatli istiqbolda xarajatlarni kamaytirish va iqtisodiy natijalarni yaxshilash orqali o'zini oqlaydi. Shuningdek, innovatsion faoliyat yangi ish o'rinlarini yaratadi, ilmiy-tadqiqot faoliyatini rivojlantiradi va iqtisodiyotning texnologik darajasini oshiradi.

Yashil investitsiyalar iqtisodiy samaradorlikni mustahkamlovchi strategik omil sifatida alohida ahamiyatga ega. Ekologik yo'naltirilgan investitsiyalar ishlab chiqarishning modernizatsiyasi, energiya samaradorligini oshirish, qayta tiklanuvchi energiya manbalarini rivojlantirish hamda ekologik infratuzilmani takomillashtirishga xizmat qiladi. Yashil investitsiyalar uzoq muddatli barqaror iqtisodiy o'sish uchun zarur sharoitlarni yaratadi. Ular iqtisodiy risklarni kamaytiradi, resurslardan foydalanish samaradorligini oshiradi va ekologik xavflarni pasaytiradi. Bundan tashqari, yashil investitsiyalar ijtimoiy farovonlikka ham ijobiy ta'sir ko'rsatadi, chunki ular ekologik toza ishlab chiqarish, sog'lom muhit va barqaror bandlikni ta'minlashga yordam beradi.

Institutsional omillar yashil iqtisodiyot samaradorligini belgilovchi asosiy shartlardan biridir. Davlat siyosati, normativ-huquqiy baza, soliq va moliyaviy rag'batlantirish

mexanizmlari yashil iqtisodiyot rivojiga sezilarli ta'sir ko'rsatadi. Ekologik standartlar, energiya samaradorligi bo'yicha talablar, qayta tiklanuvchi energiya manbalarini qo'llab-quvvatlash dasturlari iqtisodiy faoliyatni ekologik barqarorlik tamoyillari asosida yo'naltirish imkonini beradi. Institutsional barqarorlik investorlar ishonchini oshiradi, innovatsiyalarni rag'batlantiradi va yashil iqtisodiyotga o'tish jarayonini tezlashtiradi. Shu bois iqtisodiy samaradorlik nafaqat korxona darajasida, balki milliy iqtisodiy siyosat darajasida ham shakllanadi.

Ekologik samaradorlik iqtisodiy samaradorlik bilan bevosita bog'liq bo'lgan muhim tushunchadir. Ekologik zararlarning kamayishi ishlab chiqarish barqarorligini oshiradi, sog'liqni saqlash xarajatlarini kamaytiradi va ijtimoiy farovonlikka ijobiy ta'sir ko'rsatadi. Ekologik samaradorlik chiqindilarni kamaytirish, emissiyalarni qisqartirish, resurslarni qayta ishlash hamda ekologik toza texnologiyalarni qo'llash orqali ta'minlanadi. Bu jarayon iqtisodiy tizim uchun uzoq muddatli foyda keltiradi, chunki ekologik muammolarni hal qilishga sarflanadigan xarajatlar kamayadi. Shuningdek, ekologik samaradorlik korxonalar imijini yaxshilaydi, iste'molchilar ishonchini oshiradi va raqobatbardoshlikni kuchaytiradi.

Ijtimoiy omillar ham yashil iqtisodiyot samaradorligida muhim o'rin tutadi. Aholining ekologik madaniyati, iste'mol odatlari, yashil texnologiyalarga bo'lgan talab iqtisodiy samaradorlikni shakllantiradi. Ijtimoiy ongning oshishi ekologik mas'uliyatni kuchaytiradi, energiya tejamkor mahsulotlarga talabni orttiradi va barqaror iste'mol modelini rivojlantiradi. Ijtimoiy barqarorlik iqtisodiy tizimning uzoq muddatli rivojiga xizmat qiladi, chunki sog'lom muhit va barqaror bandlik jamiyat farovonligini ta'minlaydi. Yashil iqtisodiyot ijtimoiy tenglikni mustahkamlash, yashash sharoitlarini yaxshilash va sog'lom muhit yaratish orqali jamiyat taraqqiyotiga hissa qo'shadi.

Raqobatbardoshlik yashil iqtisodiyot sharoitida iqtisodiy samaradorlikning muhim ko'rsatkichlaridan biridir. Ekologik toza ishlab chiqarish, energiya samaradorligi va innovatsion texnologiyalar korxonalar raqobatbardoshligini oshiradi. Bozor talablarining o'zgarishi, iste'molchilarning ekologik mahsulotlarga qiziqishi yashil iqtisodiyotning iqtisodiy afzalliklarini yanada kuchaytiradi. Raqobatbardosh korxonalar resurslardan samarali foydalanadi, xarajatlarni kamaytiradi va bozor ulushini kengaytiradi. Shu bois yashil iqtisodiyot faqat ekologik model emas, balki iqtisodiy jihatdan ham samarali tizim sifatida qaraladi.

Yashil iqtisodiyot sharoitida iqtisodiy samaradorlik uzoq muddatli barqarorlik bilan bog'liq holda baholanadi. Qisqa muddatli foyda ko'rsatkichlari o'rniga strategik rivojlanish, resurslarning tiklanish qobiliyati, ekologik muvozanat va ijtimoiy farovonlik ustuvor ahamiyat kasb etadi. Uzoq muddatli samaradorlik iqtisodiy

tizimning barqarorligini ta'minlaydi, ekologik risklarni kamaytiradi va ijtimoiy barqarorlikni mustahkamlaydi. Bu esa yashil iqtisodiyotning asosiy maqsadi — iqtisodiy, ekologik va ijtimoiy manfaatlar o'rtasidagi uyg'unlikni ta'minlashga xizmat qiladi.

Umuman olganda, yashil iqtisodiyot sharoitida iqtisodiy samaradorlik ko'p omilli va tizimli xarakterga ega. Resurs samaradorligi, energiya tejamkorligi, innovatsion texnologiyalar, yashil investitsiyalar, institutsional barqarorlik va ijtimoiy omillar o'zaro bog'liq holda iqtisodiy natijalarni shakllantiradi. Ushbu omillar uyg'unligi iqtisodiy tizimning barqaror rivojlanishini ta'minlaydi, ekologik muvozanatni mustahkamlaydi va jamiyat farovonligini oshiradi. Yashil iqtisodiyot iqtisodiy samaradorlikka yangi mazmun kiritib, uni faqat moliyaviy natijalar bilan emas, balki ekologik va ijtimoiy barqarorlik bilan ham bog'laydi. Shu jihatdan mazkur model zamonaviy iqtisodiy taraqqiyotning muhim strategik yo'nalishi sifatida baholanadi.

Xulosa

Yashil iqtisodiyot iqtisodiy samaradorlikni kamaytirmaydi, aksincha uzoq muddatda uni oshiradi. Resurs samaradorligi, energiya tejamkorligi, innovatsiyalar va yashil investitsiyalar asosiy omillar sifatida namoyon bo'ladi.

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LINGUOSTATISTICAL ANALYSIS OF SIDQIY XONDAYLIQIY'S GHAZAL WITH THE RADIF "MENGA"

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Abstract: This article presents a linguostatistical analysis of Sidqiy Xondayliqiy's ghazal with the radif "Menga." Lexical units expressing independent meaning and those lacking independent meaning are classified according to parts of speech. The study also determines whether the units belong to the native or borrowed lexical layer.

Keywords: literary text, linguostatistics, parts of speech, word structure, native layer, borrowed layer.

To determine the structure of any literary work, the status of its units, and interlingual relations, the use of linguostatistical analysis methods yields positive results. Considering this, it is particularly relevant to study early 20th-century literature, a period marked by significant linguistic and semantic changes. With this in mind, it was decided to conduct a linguostatistical analysis of Sidqiy Xondayliqiy's ghazal with the radif "Menga."

"In recent years, statistics has been widely applied in linguistics as in other fields, and this method has come to be known as linguostatistics. The application of the statistical method in linguistics is not an end in itself, but rather a tool used alongside traditional methods to understand the extremely complex structure of language and the secrets of its functioning." Linguist S. Rizayev notes that in modern world linguistics there are three stages in identifying language phenomena:

1. Statistical observation or calculation: recording data to obtain precise information about the phenomenon under study;
2. Systematization of numerical data: organizing, grouping, and arranging the collected data in a specific order;
3. Analysis: clarifying the essential content of the results obtained in the second stage and providing their quantitative description.

During the statistical analysis, attention was paid to the following:

1. All independent words were included (nouns in their base form and verbs in the infinitive form).
2. Compound, paired, and reduplicated words were treated as single lexical units.

3. Units without independent lexical meaning were identified separately.

In Sidqiy Xondayliqiy's ghazal with the radif "Menga," a total of 70 words (including repetitions) were used. These units can be statistically analyzed as follows:

1) **Nouns:** falak (fate/sky), farog'at (comfort), o'rin (place), mehnat (labor), sharofat (honor), razolat (baseness), el (people), shafolat (intercession), furumoya (ignoble person), hasrat (sorrow), do'st (friend), hamiyat (zeal), bosh (head), fazl (virtue), qadr-u qimmat (value and dignity), shodliq (joy), yuz (face), riqqat (tenderness), ro'z (day), oyina/oyna (mirror), safo (purity), fil (elephant), illat (illness/fault), suxanvarliq (eloquence), dil (heart), Sidqiy, shuhrat (fame), rohat (comfort);

2) **Adjective:** yangi (new);

3) **Numeral:** bir (one);

4) **Pronouns:** ne (what), men (I – used 10 times), oni (him/her/it), ne bo'lmoq (what to be), alar (they), nechuk (how), bu (this);

5) **Verbs:** yetgay (may reach), berur (gives), arjumand bo'lmoq (to become honorable), ko'rmoq (to see), yetmaslik (not to reach), vafo ko'rmaslik (not to see loyalty), balo bo'lmoq (to become a calamity), ko'rmaslik (not to see), bilmam (I do not know), so'rmoq/so'ramoq (to ask);

6) **Adverbs:** dame (for a moment – used twice), zarracha (a little);

7) **Units without independent lexical meaning:**

a) Negative word: yo'q (no – used three times);

b) Auxiliary verb: erkan (was/is apparently);

c) Copular form: erur (is/means "to be");

d) Subordinating conjunction: magar (perhaps/unless);

e) Modal word: darig'oki (alas);

f) Particles: chu, ki (used twice).

In the literary text, the unit "bir" functions not as a numeral but as a demonstrative meaning "such."

1. Structural Analysis of the Nouns

-**Simple root nouns:** falak, farog'at, o'rin, mehnat, sharofat, razolat, el, shafolat, furumoya, hasrat, do'st, hamiyat, bosh, fazl, qadr-u qimmat, yuz, riqqat, ro'z, oyina, safo, fil, illat, dil, shuhrat, rohat. Among these, units such as o'rin, el, yuz, ko'z belong to the Common Turkic lexical stock.

-**Derived nouns:** shodliq, suxanvarliq, Sidqiy. Although "shod" and "suxan" are Persian words, they are considered part of the native layer due to the addition of Turkic suffixes. The pen name "Sidqiy" contains the Arabic root "sidq" and the Arabic suffix "-iy," and is therefore considered a borrowed unit.

Other Parts of Speech

- The only adjective used, “yangi,” belongs to the native lexical layer.
- The numeral “bir” is also a Common Turkic lexeme.
- All pronouns listed (ne, men, bu, oni, alar, nechuk, etc.) are Common Turkic units belonging to the native layer, though some represent archaic or altered forms.

Verbs:

- Simple root verbs (yetgay, berur, ko‘rmoq, yetmaslik, ko‘rmaslik, bilmam, so‘rmoq) are Common Turkic.
- Compound verbs (arjumand bo‘lmoq, vafo ko‘rmaslik, balo bo‘lmoq) include Arabic and Persian lexemes, but since they also contain Common Turkic elements, they are regarded as belonging to the native layer.

Of the adverbs, “dame” is borrowed, while “zarracha” belongs to the native layer.

Among the function words, “yo‘q,” “erkan,” and “erur” are Common Turkic; “magar,” “darig‘oki,” “chu,” and “ki” belong to the borrowed layer.

Conclusion: The linguostatistical analysis of the poem shows that nouns and verbs constitute the majority of lexical units. Adjectives and adverbs are used sparingly, while pronouns occur frequently due to repetition.

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YOSHLARNI OLIY TA'LIMGA JALB ETISH OMILLARI

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ANNOTATSIYA

Mazkur maqolada O'zbekistonda yoshlarni oliy ta'limga jalb etishga ta'sir etuvchi asosiy omillar tahlil qilinadi. Tadqiqotda so'nggi yillarda oliy ta'lim tizimida amalga oshirilgan islohotlar, ta'lim olish imkoniyatlarining kengayishi hamda ijtimoiy-iqtisodiy sharoitlarning yoshlarning oliy ta'limga bo'lgan qiziqishi va ishtirokiga ta'siri yoritiladi.

Shuningdek, maqolada hududiy farqlar, ta'lim shakllarining diversifikatsiyasi, moddiy va ijtimoiy omillar bilan bir qatorda ta'lim sifati masalasining yoshlarni oliy ta'limga jalb etishdagi o'rni tahlil qilinadi. Muallif tomonidan yoshlarni oliy ta'limga jalb etish jarayoniga kompleks yondashuv zarurligi asoslab beriladi.

Kalit so'zlar: yoshlar, oliy ta'lim, ta'lim siyosati, ta'limga kirish imkoniyatlari, ta'lim islohotlari, ijtimoiy omillar

Bugungi kunda yoshlarni oliy ta'limga jalb etish masalasi O'zbekistonda ta'lim siyosatining muhim yo'nalishlaridan biri sifatida namoyon bo'lmoqda. Jamiyatning ijtimoiy-iqtisodiy rivoji, malakali kadrlar tayyorlash va yoshlarning intellektual salohiyatini ro'yobga chiqarish jarayonida oliy ta'lim muhim institut hisoblanadi. Shu bois so'nggi yillarda oliy ta'lim tizimini rivojlantirish, ta'lim olish imkoniyatlarini kengaytirish va yoshlar uchun qulay shart-sharoitlar yaratishga qaratilgan chora-tadbirlar izchil amalga oshirilmoqda.

Yoshlarni oliy ta'limga jalb etish jarayoni ko'p omilli xarakterga ega bo'lib, unga nafaqat ta'lim tizimidagi islohotlar, balki ijtimoiy-iqtisodiy sharoitlar, hududiy imkoniyatlar, oilaviy muhit hamda ta'lim sifati kabi omillar ham bevosita ta'sir ko'rsatadi. Mazkur omillar o'zaro uzviy bog'liq bo'lib, ularni kompleks tahlil qilish yoshlarning oliy ta'limga bo'lgan munosabati va faolligini to'g'ri baholash imkonini beradi.

O'zbekistonda yoshlarni oliy ta'limga jalb etish masalasi davlat siyosati darajasida ustuvor vazifa sifatida belgilangan. Xususan, "Oliy ta'limni 2030-yilgacha

rivojlantirish konsepsiyasi”da oliy ta’limga kirish imkoniyatlarini kengaytirish, yoshlarning oliy ta’lim bilan qamrab olinishi hamda ta’lim sifatini oshirishga qaratilgan kompleks chora-tadbirlar nazarda tutilgan. Mazkur hujjatda oliy ta’lim tizimini modernizatsiya qilish, hududiy tenglikni ta’minlash va yoshlarning ta’limga bo’lgan motivatsiyasini kuchaytirish yoshlarni oliy ta’limga jalb etishning muhim yo’nalishlari sifatida qayd etiladi [1].

Shu nuqtai nazardan, ushbu maqolaning maqsadi yoshlarni oliy ta’limga jalb etishga ta’sir etuvchi asosiy omillarni aniqlash va ularning bugungi kundagi ahamiyatini ilmiy-tahliliy asosda yoritishdan iboratdir.

Yoshlarni oliy ta’limga jalb etish jarayoni ko’p omilli va o’zaro bog’liq tizim sifatida namoyon bo’ladi. Unda institutsional imkoniyatlar, ijtimoiy-iqtisodiy sharoitlar, hududiy omillar hamda ta’lim sifati va motivatsiya unsurlari bir-birini to’ldiruvchi va kuchaytiruvchi rol o’ynaydi. Oliy ta’lim muassasalari tarmog’ining kengayishi va ta’lim shakllarining diversifikatsiyasi yoshlar uchun ta’limga kirish imkoniyatlarini oshirsa, ijtimoiy qo’llab-quvvatlash mexanizmlari ushbu imkoniyatlardan foydalanishda mavjud to’siqlarni yumshatadi. Shu bilan birga, hududiy tengsizliklar va ta’lim infratuzilmasining rivojlanish darajasi yoshlarning oliy ta’limga bo’lgan real kirish imkoniyatlarini belgilab beradi. Mazkur omillarning barchasi oliy ta’lim sifati va bitiruvchilarning mehnat bozoridagi raqobatbardoshligi bilan chambarchas bog’liq bo’lib, aynan ushbu bog’liqlik yoshlarning oliy ta’limga bo’lgan qiziqishi va ishonchini shakllantiruvchi asosiy motivatsion omil sifatida namoyon bo’ladi. Shu bois yoshlarni oliy ta’limga jalb etish masalasiga alohida omillar kesimida emas, balki ularning o’zaro ta’siri va uyg’unligi nuqtai nazaridan yondashish ilmiy va amaliy jihatdan muhim ahamiyat kasb etadi.

Yoshlarni oliy ta’limga jalb etishda, avvalo, ta’lim tizimining institutsional imkoniyatlari muhim ahamiyat kasb etadi. So’nggi yillarda O’zbekistonda oliy ta’lim muassasalari tarmog’ining kengayishi, yangi oliy ta’lim muassasalarining tashkil etilishi hamda nodavlat va xorijiy oliy ta’lim muassasalari faoliyatining yo’lga qo’yilishi yoshlar uchun ta’lim olish imkoniyatlarini sezilarli darajada oshirdi. Bu holat oliy ta’limning hududiy jihatdan yaqinlashuvi va yoshlarning oliy ta’limga kirish imkoniyatlarining kengayishiga xizmat qilmoqda.

Shuningdek, ta’lim shakllarining xilma-xilligi – kunduzgi, sirtqi, kechki va masofaviy ta’lim shakllarining joriy etilishi – yoshlarning individual ehtiyojlari va hayotiy sharoitlariga mos ravishda oliy ta’lim olishiga zamin yaratmoqda. Bu omil, ayniqsa, mehnat faoliyati bilan band bo’lgan yoki ijtimoiy sharoiti cheklangan yoshlar uchun

oliy ta'limga kirish imkoniyatlarini kengaytiruvchi muhim mexanizm sifatida namoyon bo'ladi.

Bu borada ijtimoiy-iqtisodiy sharoitlar ham muhim rol o'ynaydi. Oila daromadlari darajasi, yashash joyi (shahar va qishloq hududlari), bandlik imkoniyatlari va ta'lim xarajatlari yoshlarning oliy ta'limga bo'lgan munosabatini belgilovchi omillar sirasiga kiradi. Mazkur omillar ayrim holatlarda yoshlarning oliy ta'lim olishdan voz kechishiga yoki ta'limni kechiktirishiga sabab bo'lishi mumkin.

Biroq so'nggi yillarda ta'lim grantlari, stipendiyalar, ijtimoiy qo'llab-quvvatlash mexanizmlarining joriy etilishi ijtimoiy-iqtisodiy to'siqlarni yumshatishga xizmat qilmoqda. Bu holat oliy ta'limning ijtimoiy ochiqqligini oshirib, turli ijtimoiy qatlamlarga mansub yoshlarning oliy ta'limga jalb etilishiga ijobiy ta'sir ko'rsatmoqda.

Hududlar kesimida oliy ta'lim muassasalari joylashuvi va ta'lim infratuzilmasining rivojlanish darajasi yoshlarni oliy ta'limga jalb etishda muhim ahamiyatga ega. Ayrim hududlarda oliy ta'lim muassasalari sonining kamligi yoki transport-logistika muammolari yoshlarning oliy ta'lim olish imkoniyatlarini cheklashi mumkin. Shu bois hududlarda oliy ta'lim infratuzilmasini rivojlantirish yoshlarni oliy ta'limga jalb etishning muhim sharti hisoblanadi.

Hududiy oliy ta'lim muassasalarining faoliyatini kengaytirish, ularni zamonaviy moddiy-texnik baza bilan ta'minlash hamda hudud ehtiyojlariga mos ta'lim yo'nalishlarini joriy etish yoshlarning oliy ta'limga bo'lgan qiziqishini oshirishga xizmat qiladi.

Yoshlarni oliy ta'limga jalb etishda ta'lim sifati va oliy ta'limning jamiyatdagi nufuzi alohida ahamiyatga ega. Agar oliy ta'lim bitiruvchilari mehnat bozorida talab yuqori bo'lgan mutaxassislar sifatida shakllansa, bu holat yoshlarning oliy ta'limga bo'lgan qiziqishini kuchaytiradi. Aksincha, ta'lim sifati va bandlik o'rtasidagi uzilishlar yoshlarning oliy ta'limga bo'lgan ishonchini pasaytirishi mumkin. Shu jihatdan oliy ta'lim tizimini mehnat bozori talablariga moslashtirish, amaliy ko'nikmalarga yo'naltirilgan ta'limni rivojlantirish va ta'lim natijalarining real samaradorligini oshirish yoshlarni oliy ta'limga jalb etishda muhim omil bo'lib qolmoqda.

Ma'lumotlar shuni ko'rsatadiki, O'zbekistonda aholining savodxonlik darajasi va ta'limga umumiy tayyorgarlik darajasi tarixan yuqori bo'lgan. Xususan, 2000-yilda umumiy savodxonlik darajasining 99,3 foizni tashkil etishi mamlakatda boshlang'ich va umumiy o'rta ta'lim tizimi keng qamrovli va barqaror faoliyat yuritganidan dalolat beradi. Shu bilan birga, 2002-yilda o'rta maxsus, malakaviy va oliy ma'lumotga ega bo'lgan katta yoshdagi aholining 75 foizni tashkil etishi ta'lim tizimida kasbiy va oliy

ta'lim bosqichlariga yo'naltirishning muhim institutsional asoslari shakllanganini ko'rsatadi [2]. Mazkur holat yoshlarni oliy ta'limga jalb etish jarayoni tasodifiy yoki faqat so'nggi yillardagi islohotlar natijasi emas, balki avvalgi davrlarda yaratilgan savodxonlik va ta'limiy salohiyatga tayanishini anglatadi. Shu jihatdan, bugungi kunda oliy ta'limga jalb etish omillarini tahlil etishda aholining yuqori savodxonlik darajasi va o'rta hamda o'rta maxsus ta'lim orqali shakllangan ta'limiy tayanch muhim ijtimoiy omil sifatida namoyon bo'ladi.

Tahlillarga ko'ra, so'nggi o'n yil ichida O'zbekiston oliy ta'lim tizimida kuzatilgan o'sish jiddiy va barqaror darajada. Masalan, 2015/2016-o'quv yili boshida mamlakat oliy ta'lim muassasalarida tahsil olayotgan talabalar soni atigi 264,300 nafarga teng bo'lgan bo'lsa, 2024/2025-o'quv yilida bu ko'rsatkich allaqachon 1 432 800 nafarni tashkil etdi va bu o'tgan o'n yillikda 5,4 barobar ortish demakdir [3].

Shu bilan birga, yoshlarning oliy ta'lim bilan qamrab olinishi ko'rsatkichida ham sezilarli o'sish kuzatiladi. Milliy statistika ma'lumotlariga ko'ra, 2014-yilda 18–23 yoshdagi aholining oliy ta'limga kirish darajasi atigi 6,8 % bo'lgan bo'lsa, 2024/2025-yillar davomida bu ko'rsatkich 47,7 % darajasiga yetdi – ya'ni yuqori ta'limga bo'lgan talab bir necha barobar oshganini anglatadi [4].

Bundan tashqari, har yili oliy ta'lim muassasalariga qabul kvotalari ham sezilarli darajada kengayib, 2025–2026-yillar uchun bakalavriat bo'yicha davlat buyurtmasi 35 500 nafar, magistratura bo'yicha esa 9 922 nafar o'rin ajratilganligi ma'lum qilindi [5]. Shunday ekan, yoshlarni oliy ta'limga jalb etish O'zbekistonda ta'lim siyosatining ustuvor yo'nalishlaridan biri bo'lib, mazkur jarayon so'nggi yillarda tizimli va barqaror xarakter kasb etmoqda. Oliy ta'lim muassasalari tarmog'ining kengayishi, ta'lim shakllarining diversifikatsiyasi hamda davlat tomonidan yaratilayotgan tashkiliy va huquqiy shart-sharoitlar yoshlarning oliy ta'limga kirish imkoniyatlarini sezilarli darajada oshirdi. Statistik ma'lumotlar ham oliy ta'lim tizimida miqdoriy o'sish mavjudligini tasdiqlab, yoshlarning oliy ta'limga bo'lgan qiziqishi va ehtiyoji ortib borayotganini ko'rsatmoqda.

Xulosa qilib aytganda, yoshlarni oliy ta'limga jalb etish jarayoni faqat qamrovni kengaytirish bilan cheklanmasdan, ta'lim sifati, hududiy tenglik, ijtimoiy-iqtisodiy sharoitlar hamda oliy ta'lim natijalarining mehnat bozori bilan uyg'unligini ta'minlashni talab etadi. Mazkur omillarning o'zaro uyg'unlashuvi yoshlarning oliy ta'limga bo'lgan ishonchi va motivatsiyasini mustahkamlashga xizmat qiladi. Shu bois kelgusida yoshlarni oliy ta'limga jalb etish siyosatini miqdoriy ko'rsatkichlar bilan bir qatorda sifat va samaradorlik mezonlari asosida yanada takomillashtirish maqsadga muvofiqdir.

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KASB-HUNAR TEXNIKUMLARIDA HAMKORLIK DASTURLARINI YARATISH VA JORIY ETISH MEXANIZMLARI

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Annotatsiya

Ushbu maqolada kasb-hunar texnikumlarida ta'lim sifatini oshirish, o'quvchilarning kasbiy kompetensiyalarini shakllantirish hamda mehnat bozori talablariga mos mutaxassis tayyorlashda hamkorlik dasturlarining o'rni va ahamiyati yoritilgan. Ta'lim muassasalari, ishlab chiqarish korxonalari va ijtimoiy hamkor tashkilotlar o'rtasidagi integratsiyalashgan hamkorlik modellari tahlil qilindi. Tadqiqot jarayonida kuzatish, so'rovnoma, tahlil va taqqoslash metodlaridan foydalanildi. Hamkorlik dasturlarini joriy etish o'quvchilarning amaliy ko'nikmalarini mustahkamlash, bandlik darajasini oshirish va ta'lim samaradorligini yaxshilashga xizmat qilishi asoslab berildi.

Kalit so'zlar

kasb-hunar ta'limi, hamkorlik dasturi, dual ta'lim, kompetensiya, amaliyot, ishlab chiqarish integratsiyasi, professional tayyorgarlik, mehnat bozori.

KIRISH

Bugungi globallashuv sharoitida iqtisodiyotning jadal rivojlanishi yuqori malakali, raqobatbardosh mutaxassislarni tayyorlashni talab etmoqda. Shu sababli kasb-hunar texnikumlarida an'anaviy nazariy ta'lim bilan bir qatorda amaliy ko'nikmalarni shakllantirishga qaratilgan innovatsion yondashuvlarni joriy etish dolzarb masalalardan biri hisoblanadi. O'zbekiston Respublikasida professional ta'lim tizimini modernizatsiya qilish, ishlab chiqarish bilan integratsiyani kuchaytirish hamda dual ta'limni joriy etish bo'yicha bir qator normativ-huquqiy hujjatlar qabul qilingan. Bu esa ta'lim muassasalari va ish beruvchilar o'rtasida samarali hamkorlik dasturlarini yaratishni taqozo etadi.

Hamkorlik dasturlari o'quvchilarning real ishlab chiqarish muhitida tajriba orttirishiga, kasbiy kompetensiyalarni shakllantirishga hamda bitiruvchilarning bandligini ta'minlashga xizmat qiladi.

Foydalanilgan usullar

Tadqiqot jarayonida quyidagi ilmiy metodlardan foydalanildi:

- pedagogik kuzatish;
- so'rovnoma va suhbat;
- statistik tahlil;
- taqqoslash metodi;
- me'yoriy hujjatlar tahlili.

Shuningdek, kasb-hunar texnikumlari, korxonalar va ish beruvchilar o'rtasidagi mavjud hamkorlik tajribalari o'rganildi.

Asosiy qism (natijalar va muhokama)

Hamkorlik dasturi — bu ta'lim muassasasi va ishlab chiqarish korxonasi o'rtasida o'quv jarayonini amaliyot bilan uyg'unlashtirishga qaratilgan tashkiliy-huquqiy hamkorlik shaklidir. U quyidagi yo'nalishlarni o'z ichiga oladi:

- o'quv-amaliy mashg'ulotlarni korxonalarda tashkil etish;
- dual ta'lim elementlarini joriy qilish;
- mutaxassislarni dars jarayoniga jalb qilish;
- bitiruvchilarni ish bilan ta'minlash;
- o'quv dasturlarini ish beruvchilar talabi asosida yangilash.

Hamkorlikning asosiy modellari

1. Dual ta'lim modeli – nazariya texnikumda, amaliyot korxonada.
2. Klaster modeli – bir nechta korxona va ta'lim muassasasining integratsiyasi.
3. Mentorlik modeli – har bir o'quvchiga ishlab chiqarish ustasi biriktiriladi.
4. Buyurtmachi-kadr modeli – korxona o'z ehtiyoji uchun mutaxassis tayyorlaydi.

Afzalliklari

- o'quvchilarda real mehnat ko'nikmasi shakllanadi;
- bitiruvchilarning ishga joylashish darajasi oshadi;
- ta'lim mazmuni zamonaviylashadi;
- korxonalarda malakali kadrlar yetishmovchiligi kamayadi.

Muammolar

- moddiy-texnik bazaning yetarli emasligi;
- hamkor korxonalar sonining kamligi;
- mentorlar tayyorlash tizimining sustligi;
- o'quv dasturlarining tez yangilanmasligi.

Takliflar

- korxonalar bilan uzoq muddatli shartnomalar tuzish;
- o'qituvchilarni ishlab chiqarish amaliyotiga yuborish;
- grant va investitsiyalarni jalb qilish;
- elektron monitoring tizimini joriy etish.

Xulosa

Kasb-hunar texnikumlarida hamkorlik dasturlarini yaratish professional ta'lim samaradorligini oshirishning muhim omili hisoblanadi. Ta'lim va ishlab chiqarish integratsiyasi natijasida o'quvchilarda kasbiy kompetensiyalar shakllanadi, ularning mehnat bozorida raqobatbardoshligi ortadi. Shuning uchun hamkorlik dasturlarini tizimli ravishda rivojlantirish va amaliyotga keng joriy etish bugungi kunning dolzarb vazifasidir.

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**UNUMDORLIGI PASTDARAJADA BO'LGAN TUPROQ'INI
YAXSHILASHDA BIOKOMPOSTNING AHAMIYATI**

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Annotatsiya. Ushbu maqolada biokompostni qishloq xo'jaligida va xalq xo'jaligida tutgan o'rni, ekologik barqarorlikni ta'minlashdagi ahamiyati hamda zamonaviy davrda uning "asr madatkori" sifatida qayta baholanishi haqida so'z yuritiladi.

Kalit so'zlar: biokompost, organik o'g'it, tuproq unumdorligi, ekologik barqarorlik, xalq xo'jaligi, qishloq xo'jaligi.

Аннотация. В данной статье рассматривается роль биокomпоста в сельском хозяйстве и народном хозяйстве, его значение в обеспечении экологической устойчивости, а также переоценка его значения в современную эпоху как «опоры века».

Ключевые слова: биокompost, органическое удобрение, плодородие почвы, экологическая устойчивость, народное хозяйство, сельское хозяйство.

Annotation. This article discusses the role of biocompost in agriculture and the national economy, its importance in ensuring environmental sustainability, as well as its re-evaluation in the modern era as the "support of the century."

Keywords: biocompost, organic fertilizer, soil fertility, environmental sustainability, national economy, agriculture.

Bugungi globallashuv davrida barqaror qishloq xo'jaligini ta'minlash, oziq-ovqat xavfsizligini mustahkamlash va ekologik muammolarga qarshi kurashishda organik o'g'itlarning, xususan, biokompostning ahamiyati beqiyos. biokompost insoniyatga qadimdan ma'lum bo'lsa-da, hozirgi kunda u "asr madatkori" sifatida yangi ilmiy va amaliy qiymat kasb etmoqda. Chunki u nafaqat tuproq unumdorligini oshiradi, balki chiqindilarni qayta ishlash, tabiatni muhofaza qilish va sog'lom avlod uchun ekologik toza mahsulot yetishtirishga xizmat qiladi.

Jahon olimlari (FAO, 2021; Lal, 2020) ta'kidlaganidek, organik chiqindilarni qayta ishlash orqali hosil bo'lgan biokompost tuproqning gumus zaxirasini tiklashda va oziqa elementlari aylanishini yaxshilashda muhim rol o'ynaydi. Mahalliy tadqiqotlar (Xolmatov, 2019; Rasulov, 2021) esa kompost qo'llash natijasida g'alla va sabzavot

ekinlari hosildorligi 15–20% ga oshishini, mikroelementlar balansining yaxshilanishini qayd etgan.

Biokompostlashning agronomik, ekologik va iqtisodiy ahamiyati ko‘plab mahalliy va xorijiy olimlar tomonidan chuqur o‘rganilgan. O‘zbekistonda Yo‘ldoshev (2015) va Xo‘jayev (2019) tadqiqotlarida biokompost tuproqning gumus miqdorini oshirishi, azot, fosfor va kaliy kabi elementlarning o‘zlashtirilishini yengillashtirishi hamda suvni ushlab turish qobiliyatini yaxshilashi qayd etilgan.

Xalqaro tajribalarda ham biokompostlashning afzalliklari keng yoritilgan. FAO (2018) hisobotiga ko‘ra, biokompostlash rivojlanayotgan mamlakatlarda chiqindilarni qayta ishlashning eng samarali yo‘llaridan biri bo‘lib, u organik dehqonchilikning asosiy manbalaridan biri hisoblanadi.

Haug (1993) o‘zining “Composting Engineering” asarida biokompostlashning mikrobiologik mexanizmlari va uning ekinlarga bevosita ta’siri haqida batafsil ma’lumot bergan.

Edwards & Arancon (2004) esa vermikompost va oddiy biokompostning o‘zaro farqlari hamda o‘simliklarning ildiz tizimi rivojiga ta’sirini taqqoslagan.

Hindiston tajribasida biokompostlash kichik fermer xo‘jaliklari uchun eng maqbul o‘g‘it manbai sifatida qaraladi. Sharma va boshq. (2017) tadqiqotida biokompost qo‘llash natijasida tuproqning kation almashuv qobiliyati 25 % ga, hosildorlik esa 15–30 % ga ortishi qayd etilgan.

Xitoyda esa organik chiqindilardan tayyorlangan biokompost ekologik xavfsiz sabzavot yetishtirishda keng qo‘llanmoqda (Zhang va boshq., 2020).

Yevropa Ittifoqi (EU, 2019) organik dehqonchilik standartlarida biokompostlash majburiy jarayon sifatida kiritilgan bo‘lsa, AQShda (USDA Organic Program, 2015) organik sertifikatlashda biokompostning sifat ko‘rsatkichlari (C:N nisbati, pH, patogenlardan xoli bo‘lish) qat’iy belgilangan.

Umuman, ilmiy manbalar tahlili shuni ko‘rsatadiki, biokompost faqatgina o‘g‘it emas, balki tuproq–o‘simlik–mikroflora ekotizimi birdamligini mustahkamlovchi asosiy omil sifatida qaralmoqda.

Biokompost qishloq xo‘jaligidan tashqari, xalq xo‘jaligining turli sohalarida ham qo‘llanilmoqda. Shahar kommunal xo‘jaliklarida chiqindilarni kamaytirish va qayta ishlashda, bog‘-park xo‘jaligida tuproq qoplamasini yaxshilashda, hatto qurilish sanoatida biokompost asosida ekologik toza materiallar tayyorlashda ham u qo‘llanilishi mumkin.

Shuningdek, biokompost ishlab chiqarish bo'yicha kichik biznes va startaplarni rivojlantirish orqali qo'shimcha ish o'rinlari yaratish, mahalliy iqtisodiyotni mustahkamlash imkoniyati mavjud.

Qishloq xo'jaligida biokompost – o'simliklar uchun zarur bo'lgan azot, fosfor, kaliy va boshqa mikroelementlarning tabiiy manbai hisoblanadi. U tuproqning: fizik-kimyoviy xossalarini yaxshilaydi; suvni ushlab qolish qobiliyatini oshiradi; foydali mikroorganizmlar faolligini kuchaytiradi; o'simliklarning chidamliligini oshiradi. O'zbekiston sharoitida biokompost ayniqsa sho'rlangan va degradatsiyaga uchragan tuproqlarni tiklashda samarali hisoblanadi. Samarqand, Buxoro, Qashqadaryo va Xorazm viloyatlarida olib borilgan tajribalar biokompost qo'llanganda hosildorlik 15–25% ga oshishini ko'rsatgan. So'nggi yillarda O'zbekiston Respublikasi Prezidentining qishloq xo'jaligini ekologik barqaror rivojlantirishga qaratilgan qator qaror va farmonlarida organik o'g'itlardan samarali foydalanish masalasi alohida ta'kidlanmoqda.

Xulosa. Biokompost – bu oddiygina organik o'g'it emas, balki insoniyat uchun tabiat va qishloq xo'jaligi o'rtasidagi ko'prikdir. U atrof-muhitni muhofaza qiladi, chiqindilardan toza energiya va ozuqa manbai yaratadi, xalq xo'jaligining turli tarmoqlarida samarali qo'llanadi. Shu sababdan ham uni “asr madatkori” deb atash bejiz emas.

Kelgusida O'zbekistonda biokompost ishlab chiqarishni kengaytirish, ilmiy asoslangan texnologiyalarni ishlab chiqish va fermer xo'jaliklarida uni joriy etish orqali nafaqat hosildorlik oshadi, balki ekologik toza mahsulotlar yetishtirish orqali xalq salomatligi ham mustahkamlanadi.

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QISHLOQ XO'JALIGIDA QO'LLANILADIGAN BIOINNOVATSIYALAR

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Annotatsiya: Ushbu maqolada qishloq xo'jaligida an'anaviy kimyoviy vositalarning o'rnini bosuvchi bioinnovatsiyalarning ahamiyati yoritilgan. Bioo'g'itlar, biopestitsidlar, biostimulyatorlar hamda nano-bioinnovatsiyalar orqali tuproq unumdorligini oshirish, zararkunandalarga qarshi samarali kurashish va ekologik xavfsizlikni ta'minlash masalalari tahlil qilingan. Shuningdek, O'zbekiston sharoitida bioinnovatsiyalarni joriy etish istiqbollari ham ko'rib chiqilgan.

Kalit so'zlar: bioinnovatsiya, bioo'g'it, biopestitsid, biostimulyator, nano-bioo'g'it, tuproq unumdorligi, ekologik xavfsizlik.

Annotation: This article highlights the importance of bio-innovations as alternatives to traditional chemical inputs in agriculture. The issues of improving soil fertility, effective pest control, and ensuring ecological safety through biofertilizers, biopesticides, biostimulants, and nano-bio innovations are analyzed. In addition, the prospects for introducing bio-innovations under the conditions of Uzbekistan are discussed.

Keywords: bio-innovation, biofertilizer, biopesticide, biostimulant, nano-biofertilizer, soil fertility, ecological safety.

Аннотация: В данной статье раскрыто значение био-инноваций, заменяющих традиционные химические средства в сельском хозяйстве. Проанализированы вопросы повышения плодородия почв, эффективной борьбы с вредителями и обеспечения экологической безопасности за счёт использования биоудобрений, биопестицидов, биостимуляторов и нано-био инноваций. Также рассмотрены перспективы внедрения био-инноваций в условиях Узбекистана.

Ключевые слова: био-инновация, биоудобрение, биопестицид, биостимулятор, нано-биоудобрение, плодородие почвы, экологическая безопасность.

Kirish: Bilamizki tuproq unumdorligi asosiy o'rinda turadi va biz tuproq unumdorligini oshirishda turli xil o'g'itlardan, organik o'g'itlardan, mikro va makro elementlardan foydalanamiz. Tuproq unumdorligi qancha yaxshi bo'lsa o'simlikni ham hosili yaxshi bo'ladi. Biz o'simliklarda turli xil pestitsidlardan foydalanamiz. Bugungi kunda qishloq xo'jaligi oldida ikki asosiy vazifa turibdi: hosildorlikni oshirish va ekologik xavfsizlikni ta'minlash. An'anaviy o'g'itlar va pestitsidlar yuqori

samaradorlik bersa-da, ular tuproqning tabiiy muvozanatini buzadi, atrof-muhitni ifloslantiradi va inson salomatligiga zarar yetkazishi mumkin. Shu sababli zamonaviy qishloq xo'jaligida an'anaviy kimyoviy vositalarning o'rnini bosuvchi bioinnovatsiyalar tobora ko'proq joriy qilinmoqda. Bioo'g'itlar (Biological Fertilizers); Bioo'g'itlar — foydali mikroorganizmlar asosida yaratilgan preparatlardir. Ular o'simliklarga zarur oziqa moddalarni (azot, fosfor, kaliy) yetkazib berishda yordam beradi.

Rizobakteriyalar – havodagi azotni fiksatsiyalab, tuproqqa o'tkazadi. Mikorizali qo'ziqorinlar – o'simlik ildizlari bilan simbioz hosil qilib, fosfor va minerallarni yaxshi o'zlashtirishga yordam beradi. Biokompostlar – organik chiqindilarni qayta ishlash asosida tuproq unumdorligini oshiradi. Biopestitsidlar (Biological Pesticides) Kimyoviy pestitsidlarning o'rnini bosuvchi bioinnovatsiyalardan eng muhimlari biopestitsidlardir. Ular turli mikroorganizmlar yoki tabiiy moddalar asosida tayyorlanadi.

Bacillus thuringiensis – hasharotlarga qarshi samarali bakterial vosita.

Entomopatogen qo'ziqorinlar – zararli hasharotlarni tabiiy yo'l bilan yo'q qiladi. O'simlik ekstraktlari (masalan, neem yog'i, sarimsoq ekstrakti) – zararkunandalarga qarshi tabiiy himoya vositasi. Biostimulyatorlar: O'simliklarning o'sishi va rivojlanishini rag'batlantiruvchi bioinnovatsiyalar. Aminokislotalar asosidagi preparatlar.

Alg va dengiz o'tlari ekstraktlari.

Gormonal o'sish stimulyatorlari (tabiiy kelib chiqishi). Ular hosildorlikni oshirish, stress (qurg'oqchilik, sho'rlanish)ga chidamlilikni kuchaytirishda yordam beradi. Nano-bioinnovatsiyalar: So'nggi yillarda nano texnologiyalar ham qishloq xo'jaligiga kirib keldi. Nano-bioo'g'itlar – ozuqa moddalarni o'simliklarga aniq miqdorda yetkazib berish imkonini beradi.

Nano-bioplyonkalar – urug'larni himoya qilib, tez unib chiqishini ta'minlaydi. Nano-biosensorlar – tuproqdagi ozuqa moddalarini aniqlashda yordam beradi. O'zbekiston sharoitida bioinnovatsiyalarni joriy etish:

O'zbekiston qishloq xo'jaligi hududlarida:

Sho'rlangan yerlarda biokompost va bioo'g'itlardan foydalanish; Paxta va g'alla dalalarida rizobakteriyalarni qo'llash; Sabzavotchilik va bog'dorchilikda biopestitsidlarni joriy qilish; Issiqxona xo'jaliklarida biostimulyatorlar yordamida yuqori sifatli hosil olish katta imkoniyatlar yaratadi.

Xulosa: Qishloq xo‘jaligida bioinnovatsiyalar an’anaviy kimyoviy vositalarning o‘rnini bosuvchi ekologik xavfsiz, samarali va barqaror texnologiyalardir. Ular tuproq unumdorligini tiklash, zararkunandalarga qarshi kurashish, hosildorlikni oshirish va ekologik muvozanatni saqlashda katta ahamiyat kasb etadi. Kelajakda bioinnovatsiyalarni keng joriy etish orqali qishloq xo‘jaligida barqaror rivojlanish ta’minlanadi.

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TUPROQ UNUMDORLIGINI OSHIRISHDA AGROTEXNOLOGIK TADBIRLARNING AHAMIYATI

Samarqand agroinnovatsiyalar va tadqiqotlar instituti talabasi

G'aybullayev Nurmaxmat Azamat o'g'li

Annotatsiya. Maqolada tuproq unumdorligini oshirishda agrotexnologik tadbirlarning o'rnini keng yoritilgan. Mineral va organik o'g'itlarning qo'llanilishi, mikroelementlarning ahamiyati, shuningdek, tuproqning fizik-kimyoviy xususiyatlarini yaxshilash bo'yicha ilmiy asoslar keltiriladi. Ilmiy manbalar tahliliga asoslangan holda agrotexnologik choralar tuproq unumdorligini tiklash va hosildorlikni oshirishda hal qiluvchi omil ekanligi ta'kidlanadi.

Kalit so'zlar. Tuproq unumdorligi, agrotexnologik tadbirlar, o'g'itlar

Аннотация. В статье подробно рассматривается роль агротехнологических мероприятий в повышении плодородия почвы. Приводятся научные данные о применении минеральных и органических удобрений, значении микроэлементов, а также мерах по улучшению физико-химических свойств почвы. На основе анализа научных источников подчеркивается важность агрохимических мероприятий в восстановлении плодородия и увеличении урожайности.

Ключевые слова. Плодородие почвы, агрохимические мероприятия, удобрения

Abstract. The article discusses in detail the role of agrotechnological measures in increasing soil fertility. Scientific data are presented on the use of mineral and organic fertilizers, the importance of microelements, as well as measures to improve the physicochemical properties of soils. Based on the analysis of scientific sources, it is emphasized that agrochemical practices are crucial for restoring soil fertility and increasing crop yields.

Keywords. Soil fertility, agrotechnological practices, fertilizers

Tuproq unumdorligini saqlash va oshirish zamonaviy agronomiya fanining eng muhim vazifalaridan biridir. Qishloq xo'jaligi ishlab chiqarishida asosan azot, fosfor va kaliy kabi makroelementlarga katta e'tibor qaratilsa-da, mikroelementlarning ham o'simliklarning normal o'sishi, rivojlanishi va yuqori hosil shakllanishidagi o'rnini beqiyosdir. Ular juda kichik miqdorlarda talab qilinadi, ammo fiziologik va biokimyoviy jarayonlarda katalizator sifatida ishtirok etib, tuproq unumdorligini belgilovchi asosiy omillardan biriga aylanadi.

Bugungi kunda tuproqlarning ko'plab hududlarda degradatsiyaga uchrashi, intensiv dehqonchilik natijasida mikroelementlarning tuproqdan yuvilib ketishi, shuningdek, noto'g'ri o'g'itlash strategiyalari tufayli ularning tanqisligi yuzaga kelmoqda. Bu esa nafaqat ekinlar hosildorligining pasayishiga, balki insonlarda "yashirin ochlik" (hidden hunger) deb ataluvchi mikroelement yetishmovchiligi muammosining kuchayishiga olib kelmoqda.

O'zbekiston Respublikasi Prezidentining "Qishloq xo'jaligida ilmiy tadqiqotlar samaradorligini oshirish va innovatsion ishlanmalarni joriy etish chora-tadbirlari to'g'risida"gi qarorlari hamda "2020–2030 yillarda O'zbekiston Respublikasi qishloq xo'jaligini rivojlantirish strategiyasi"da yer resurslaridan oqilona foydalanish, mineral va mikroo'g'itlar qo'llash samaradorligini oshirish

masalalari alohida ta'kidlangan. Bu esa mikroelementlarni ilmiy asosda qo'llash zarurligini yanada kuchaytiradi.

Mikroelementlarning tuproqdagi mavjudligi nafaqat ekinlarning oziqlanishi, balki tuproq mikrobiotasining faoliyati uchun ham zarur. Ularning muvozanatli qo'llanishi agroekotizimning barqarorligini ta'minlaydi, ekologik xavfsizlikni mustahkamlaydi hamda barqaror qishloq xo'jaligini rivojlantirishda strategik ahamiyat kasb etadi.

Tuproq unumdorligi qishloq xo'jaligi ishlab chiqarishining eng muhim asosiy omili hisoblanadi. Hosildorlikning barqaror va yuqori bo'lishi bevosita tuproqning agroekologik holatiga bog'liq. So'nggi yillarda intensiv dehqonchilik va noto'g'ri agrotexnik tadbirlar tufayli ko'plab yerlarda tuproq unumdorligi pasaymoqda. Shu bois tuproqni tiklash, uning fizik-kimyoviy tarkibini yaxshilash va oziq moddalarga boyitish masalalari ilmiy jihatdan dolzarb sanaladi. Agrotexnologik tadbirlar, jumladan mineral va organik o'g'itlar qo'llash, mikroelementlar bilan oziqlantirish, yashil o'g'itlardan foydalanish tuproqning tabiiy unumdorligini saqlash va tiklashda muhim ahamiyat kasb etadi.

Qishloq xo'jaligi ishlab chiqarishida tuproq unumdorligi — asosiy omil hisoblanadi. Aynan tuproqning tabiiy va antropogen jarayonlar natijasida shakllanadigan fizik, kimyoviy hamda biologik xususiyatlari ekinlarning hosildorligini bevosita belgilab beradi. Hozirgi davrda jadal rivojlanayotgan qishloq xo'jaligi tizimida tuproq unumdorligini oshirish barqaror oziq-ovqat xavfsizligini ta'minlash, ekologik muvozanatni saqlash va qishloq xo'jalik mahsulotlari sifatini yaxshilashda dolzarb masala sifatida maydonga chiqmoqda.

1. Aholi sonining ortishi va oziq-ovqat xavfsizligi ehtiyoji.

Global miqyosda aholining o'sishi oziq-ovqatga bo'lgan talabni keskin oshirmoqda. Shu sababli cheklangan yer resurslaridan oqilona foydalanish, tuproq unumdorligini saqlash va uni barqaror oshirish ilmiy va amaliy jihatdan eng muhim vazifalardan biridir.

2. Iqlim o'zgarishi va degradatsiya jarayonlari.

O'zbekiston sharoitida ham, jahonning ko'plab mamlakatlarida ham tuproq resurslari iqlim o'zgarishi, cho'llanish, sho'rlanish, eroziya va zichlashuv jarayonlari ta'sirida yaroqlilik darajasini yo'qotmoqda. Bu holat o'z-o'zidan hosildorlikning pasayishiga olib kelmoqda. Bunday sharoitda agrotexnologik tadbirlarning kompleks qo'llanishi tuproq degradatsiyasini kamaytirishning asosiy vositasi hisoblanadi.

3. Agrotexnologik yondashuvlarning ilmiy asoslari.

Agrokimyoviy tadbirlar – o'g'itlardan oqilona foydalanish, ularning shakli, normasi va qo'llash muddatini ilmiy asoslash orqali tuproqning ozuqa moddalar balansini tiklash.

Agromeliorativ tadbirlar – sho'rlangan, zichlashgan, namligi past tuproqlarda drenaj, sug'orish va yuvish tizimlarini joriy etish.

Biologik tadbirlar – siderat ekinlari, organik o'g'itlar, bioo'g'itlar va mikroorganizmlardan foydalanish orqali tuproqning biologik faolligini kuchaytirish.

Agrotexnik tadbirlar – almashlab ekish, tuproqni mexanik ishlash usullarini optimallashtirish, minimal yoki nolinchil ishlov berish texnologiyalarini joriy etish orqali unumdor qatlamni saqlash.

4. Ekologik barqarorlik.

Agrotexnologik tadbirlar nafaqat hosildorlikni oshiradi, balki tuproqning tabiiy muvozanatini tiklashga, uglerod aylanishini yaxshilashga va biologik xilma-xillikni qo'llab-quvvatlashga xizmat qiladi.

5. Iqtisodiy samaradorlik.

Tuproq unumdorligi yuqori bo'lgan xo'jaliklarda o'simliklarning oziqlanishi yaxshilanadi, natijada ekinlar barqaror hosil beradi va ishlab chiqarish xarajatlari kamayadi. Shu bois agrotexnologik tadbirlar nafaqat ekologik, balki iqtisodiy jihatdan ham foydali hisoblanadi.

Shunday qilib, tuproq unumdorligini oshirishda agrotexnologik tadbirlarning ahamiyati nihoyatda yuqori bo'lib, ular oziq-ovqat xavfsizligini ta'minlash, qishloq xo'jaligi ishlab chiqarishini barqaror rivojlantirish va ekologik muvozanatni saqlashning ilmiy asoslangan mexanizmi sifatida qaraladi. Bugungi kunda ushbu yo'nalishda olib borilayotgan tadqiqotlar, zamonaviy agrotexnologiyalarni ishlab chiqish va amaliyotga tatbiq etish O'zbekiston agrar sohasida ham dolzarb ilmiy muammo sifatida namoyon bo'lmoqda.

Agrotexnologik tadbirlarning samaradorligi ko'p jihatdan tuproq turiga, iqlim sharoitiga va ekinlarning biologik xususiyatlariga bog'liq. Mineral o'g'itlardan foydalanish ekinlarning o'sishi va rivojlanishini jadallashtiradi, hosildorlikni oshiradi. Ammo faqat mineral o'g'itlardan foydalanish tuproqning biologik faoliyatiga salbiy ta'sir ko'rsatishi mumkin. Shu bois organik va mineral o'g'itlarni uyg'unlashtirib qo'llash ilmiy asoslangan yondashuv hisoblanadi.

Organik o'g'itlar, xususan kompost, go'ng, biogumus tuproqning strukturaviy xususiyatlarini yaxshilaydi, foydali mikroorganizmlar faoliyatini rag'batlantiradi. Ular tuproqning namni ushlab qolish qobiliyatini oshiradi va mikroelementlar bilan boyitadi. Shuningdek, bargdan oziqlantirish orqali o'simliklarga tezkor oziq moddalarni yetkazib berish mumkin.

Quyidagi jadvalda turli agrotexnologik tadbirlarning tuproq unumdorligiga ta'siri keltirilgan:

Tadbir turi	Ta'sir mexanizmi	Hosildorlikka ta'siri
Mineral o'g'itlar	Tez so'riluvchi oziq moddalar bilan ta'minlaydi	15-20% oshadi
Organik o'g'itlar	Tuproq strukturasi va mikroflorasini yaxshilaydi	10-18% oshadi
Mikroelementlar bilan oziqlantirish	Biokimyoviy jarayonlarni faollashtiradi	12-15% oshadi

So'nggi o'n yilliklarda tuproq unumdorligini tiklash va oshirish bo'yicha ko'plab tadqiqotlar olib borilmoqda. Karimov (2019) tomonidan o'tkazilgan tadqiqotlarda organik o'g'itlarning donli ekinlarda tuproq unumdorligini tiklashdagi ahamiyati yoritilgan. Smith va Jones (2020) mineral va organik o'g'itlarni birgalikda qo'llash natijasida tuproqning fizik-kimyoviy xususiyatlari yaxshilanganini qayd etishgan. Ivanova (2021) o'z maqolasida mikroelementlarning sabzavot ekinlarida hosildorlik va sifat ko'rsatkichlarini oshirishi haqida ilmiy xulosalar bergan.

Mahalliy tadqiqotlarda (Abdurahmonov, 2021) paxtachilikda mikroelementli o'g'itlardan foydalanish tolalarning sifatini yaxshilaganini ko'rsatadi. Mamatqulov (2022) organik o'g'itlar bilan birgalikda mikroelementlar qo'llanganda samaradorlik yanada oshishini ta'kidlagan. Xitoyda olib borilgan tajribalar (Li, 2022) esa bargdan oziqlantirish orqali sabzavotlarda hosildorlik va sifat ko'rsatkichlarining yaxshilanishini isbotlagan.

Xulosa. Agrotexnologik tadbirlar tuproq unumdorligini oshirishda hal qiluvchi omil bo'lib, ular hosildorlikni oshirish va mahsulot sifatini yaxshilashda muhim ahamiyatga ega. Mineral va organik o'g'itlarni uyg'unlashtirib qo'llash, mikroelementlar bilan oziqlantirish va tuproqning fizik-kimyoviy xususiyatlarini yaxshilash orqali qishloq xo'jaligi ekinlarida yuqori hosil olish mumkin. Shuningdek, ilmiy asoslangan agrotexnologik yondashuvlar tuproq degradatsiyasini sekinlashtirish va barqaror dehqonchilikni ta'minlashda muhim ahamiyat kasb etadi.

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MIKROELEMENTLARNING TUPROQ UNUMDORLIGI VA EGIN HOSILDORLIGIDAGI AHAMIYATI

Samarqand agroinnovatsiyalar va tadqiqotlar instituti talabasi

G'aybullayev Nurmaxmat Azamat o'g'li

Annotatsiya. Ushbu maqolada mikroelementlarning tuproq unumdorligi va ekin hosildorligidagi o'рни haqida so'z yuritiladi. Mikroelementlar o'simliklarning oziqlanishida muhim o'rin tutib, ularning fiziologik jarayonlarini faollashtiradi, hosildorlik va mahsulot sifatini oshiradi. Maqolada mavjud ilmiy manbalar asosida mikroelementlarning ahamiyati tahlil qilinib, ularni qo'llash samaradorligi bo'yicha ilmiy ma'lumotlar keltiriladi.

Kalit so'zlar. Mikroelementlar, tuproq unumdorligi, hosildorlik

Аннотация. В статье рассматривается роль микроэлементов в плодородии почвы и урожайности сельскохозяйственных культур. Микроэлементы играют важную роль в питании растений, активизируют физиологические процессы, повышают урожайность и качество продукции. На основе существующих научных источников приведены данные об их значении и эффективности.

Ключевые слова. Микроэлементы, плодородие почвы, урожайность

Abstract. This article discusses the role of microelements in soil fertility and crop productivity. Microelements play a crucial role in plant nutrition, stimulating physiological processes, increasing yields, and improving product quality. Based on existing scientific literature, data on their importance and effectiveness are presented.

Keywords. Microelements, soil fertility, crop yield

Bugungi kunda qishloq xo'jaligida yuqori va sifatli hosil yetishtirish, oziq-ovqat xavfsizligini ta'minlash va aholi salomatligini mustahkamlash masalalari eng dolzarb vazifalardan biri hisoblanadi.

Ana shunday muhim vazifalarni amalga oshirishda mikroelementlarning tuproq unumdorligi va ekin hosildorligidagi o'рни beqiyosdir. Tuproq tarkibida mikroelementlar (bor, rux, mis, molibden, marganes, kobalt va boshqalar) juda kam miqdorda bo'lsa-da, ular o'simliklarning fiziologik-biokimyoviy jarayonlarida asosiy katalizator rolini bajaradi. Mikroelementlarning yetarli bo'lmashligi o'simliklarda fiziologik kasalliklarni keltirib chiqarib, hosildorlikning keskin pasayishiga, yetishtirilayotgan mahsulot sifatining yomonlashishiga olib keladi.

Aksincha, ularning ilmiy asoslangan me'yorlarda qo'llanilishi tuproq unumdorligini tiklash, ekinlarning hosildorligini oshirish va oziq-ovqat mahsulotlarining biologik qiymatini yaxshilash imkonini beradi. So'nggi yillarda ilmiy tadqiqotlar shuni ko'rsatmoqdaki, tuproqdagi organik va mineral o'g'itlar bilan bir qatorda mikroelementlardan oqilona foydalanish hosildorlikni 20–30 foizgacha oshirishi mumkin. Bundan tashqari, mikroelementlar o'simliklarning stress sharoitlariga (sho'rlanish, qurg'oqchilik, harorat o'zgarishlari) chidamliligini oshiradi, bu esa iqlim o'zgarishi sharoitida qishloq xo'jaligi ishlab chiqarishini barqarorlashtirishda katta ahamiyatga ega.

Mamlakatimizda ham tuproq unumdorligini oshirish, dehqonchilikda innovatsion yondashuvlarni keng qo'llash bo'yicha qator davlat dasturlari qabul qilingan. Jumladan:

O'zbekiston Respublikasi Prezidentining 2019-yil 17-iyundagi PQ-4358-son qarori ("Qishloq xo'jaligida ilmiy-tadqiqot va innovatsiyalarni rivojlantirish bo'yicha chora-tadbirlar to'g'risida"); 2021-yil 23-oktabrdagi PQ-5253-son qarori ("Oziq-ovqat xavfsizligini ta'minlash hamda tuproq unumdorligini oshirishga qaratilgan kompleks chora-tadbirlar to'g'risida"); 2023–2030-yillarga mo'ljallangan qishloq xo'jaligini rivojlantirish strategiyasi doirasida tuproq va o'g'itlardan samarali foydalanish masalalari ustuvor yo'nalishlardan biri sifatida belgilangan.

Shu boisdan mikroelementlarning tuproq unumdorligi va ekin hosildorligidagi ahamiyatini o'rganish, ularni ilmiy asoslangan me'yorlarda qo'llash dolzarb ilmiy-amaliy masalalardan biridir.

Bu yo'nalishda olib boriladigan tadqiqotlar qishloq xo'jaligida barqaror rivojlanishni ta'minlash, ekologik xavfsizlikni mustahkamlash va aholining sog'lom oziq-ovqat mahsulotlariga bo'lgan talabini qondirishda muhim ahamiyat kasb etadi.

Mikroelementlarning o'simliklar hayotidagi ahamiyati beqiyosdir. Ular tarkibida bo'lgan temir (Fe), marganets (Mn), sink (Zn), mis (Cu), molibden (Mo), bor (B) kabi elementlar ko'plab fermentlar tarkibiga kirib, o'simliklarda fotosintez, nafas olish, oqsil va uglevod almashinuvi jarayonlarini faollashtiradi. Masalan, temir yetishmasligi xloroz kasalligiga olib keladi, bor yetishmasa g'o'za va sabzavot ekinlarida vegetativ rivojlanish susayadi. Marganets esa donli ekinlarda fotosintez jarayonini kuchaytiruvchi asosiy mikroelement sifatida tanilgan.

Tuproqda mikroelementlarning mavjudligi ko'p jihatdan geologik sharoit, iqlim, tuproq tipi va agrotexnika tadbirlariga bog'liq bo'ladi. Shu bois tuproqni muntazam agroximik tahlildan o'tkazib, unda qaysi element yetishmayotganini aniqlash muayyan ekinlar hosildorligini oshirishda asosiy omillardan biridir.

Quyidagi jadvalda ayrim mikroelementlarning asosiy funksiyalari va yetishmasligi oqibatlari keltirilgan:

Mikroelement	O'simlikdagi funksiyasi	Yetishmasligi oqibatlari
Temir (Fe)	Xlorofill sintezi, fotosintez jarayonida ishtirok etadi	Xloroz kasalligi, barglarning sarg'ayishi
Bor (B)	Gullash va meva hosil bo'lishini ta'minlaydi	Hosil tugilmasligi, vegetativ o'sishning sustlashishi
Marganets (Mn)	Fotosintez va oksidlanish-qaytarilish jarayonlarida ishtirok etadi	Barglarda dog'lar, hosildorlikning pasayishi
Sink (Zn)	Oqsil sintezida va fermentlar faoliyatida muhim	O'sishning sekinlashuvi, barglarning kichrayishi

O'zbekiston va xorijiy olimlarning tadqiqotlari shuni ko'rsatadiki, tuproqda mikroelementlar yetishmovchiligi ko'pincha ekinlarning hosildorligi va sifatiga sezilarli darajada salbiy ta'sir ko'rsatadi. Masalan, Qodirov (2018) o'z tadqiqotlarida temir yetishmasligi natijasida bog'dorchilik ekinlarida xloroz kasalligi keng tarqalganini qayd etgan. Ivanova (2020) Rossiya sharoitida marganetsning yetarli bo'lishi g'allachilikda hosildorlikni 12-15% oshirganini ta'kidlagan.

Xitoy olimlari (Li, 2021) tomonidan olib borilgan tadqiqotlarda sink o'g'itlari bilan bargdan oziqlantirish natijasida sabzavot ekinlarining vitaminlar tarkibi va saqlanish muddatining uzayishi kuzatilgan. AQShda esa (Johnson, 2019) misning yetishmasligi makkajo'xori hosildorligini 20% ga kamaytirishi mumkinligi haqida ilmiy ma'lumotlar berilgan.

Mahalliy olimlardan Abdurahmonov (2022) mikroelementlarning paxtachilikda ahamiyati haqida ilmiy maqolasida sink va borning tolalar sifat ko'rsatkichini yaxshilashdagi roli haqida to'xtalib o'tgan. Shuningdek, Mamatqulov (2023) o'z tadqiqotida mikroelementlar qo'llanilganda paxtaning tolalari uzunligi va mustahkamligi oshganini qayd etadi.

Xulosa. Xulosa qilib aytganda, mikroelementlar tuproq unumdorligini oshirish va ekin hosildorligini yaxshilashda muhim o'rin tutadi. Ular o'simliklarning fiziologik jarayonlarini faollashtiradi, kasalliklarga chidamliligini oshiradi va mahsulot sifatini

yaxshilaydi. Shu sababli, agroximiyada tuproqdagi mikroelementlarni aniqlash va ularni to'g'ri qo'llash orqali qishloq xo'jaligi ekinlarida yuqori hosil olish imkoniyatlari yaratiladi.

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PROBLEMS OF PREVENTING CRIMES COMMITTED BY MINORS BY LAW ENFORCEMENT AGENCIES

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Abstract. This article analyzes the pedagogical and psychological problem of the cooperation module of law enforcement agencies in preventing crimes committed by minors. The study determined that law enforcement agencies should use all available cooperation methods and methodologies in the process of cooperation in socio-legal activities in order to implement cooperation. The article analyzes existing problems and provides scientific and practical proposals and recommendations for their elimination.

Keywords: law enforcement agency, internal affairs agency, national guard, Ministry of Emergency Situations, minors, crime.

Our President has clearly indicated that the internal affairs bodies should work together to prevent crime, carry out their activities in a single way, and most importantly, establish cooperation with the National Guard servicemen[1]. A system of neighborhood sevens has been established in Uzbekistan since 2023. Now, preventive inspectors will become the most active members of that system, studying the situation at the household level. This seven serves to ensure cooperation between entities in preventing violations.

The Cabinet of Ministers of the Republic of Uzbekistan ensures the implementation of a unified state policy in the field of ensuring public safety; ensures the development, approval and implementation of comprehensive target state programs aimed at ensuring public safety, including the prevention of crime, social and interethnic conflicts; ensures effective cooperation with all state bodies and organizations, public associations, international organizations and citizens on issues of ensuring public safety; implements measures to ensure the material and technical support of entities directly ensuring public safety, as well as their legal and social protection; determines the procedure for encouraging non-governmental non-profit organizations and citizens who actively participate in ensuring public safety.

The Ministry of Internal Affairs of the Republic of Uzbekistan develops, approves and implements targeted departmental programs aimed at ensuring public safety;

implements measures to maintain public order, ensure road safety, combat crime, terrorism and extremism; coordinates the activities of all forces and means involved in ensuring public safety in public places, including on roads, at transport and tourism infrastructure facilities, and provides organizational and methodological support; ensures compliance with the rules and regulations in the field of circulation of civilian and service weapons and their ammunition, as well as the requirements and conditions for issuing licenses and permits in this area; carries out crime prevention, identifies persons prone to committing crimes; Conducts a comprehensive, systematic analysis of offenses and violations committed in public places, makes proposals, mandatory submissions and recommendations on eliminating the factors that cause them, and on the effective use of available forces and means; provides a general management system for measures to curb public disorder that threatens public safety; regularly informs the general public about the state of public safety, and studies public opinion on this issue[3].

The National Guard of the Republic of Uzbekistan also develops, approves and implements targeted departmental programs aimed at ensuring public security; carries out measures to suppress public unrest that threaten public security; organizes the maintenance of public order in public places assigned to it, including public events in the cities of Tashkent, Nukus and regional centers, parks, squares and markets; within its competence, ensures public security in emergency situations and in areas where a state of emergency has been declared; participates in cooperation with authorized state agencies in conducting anti-terrorist operations; guards state facilities, extremely important, classified facilities and other facilities, property of individuals and legal entities; implements state policy in the field of security activities; carries out scientific research and organizational and methodological work in the field of ensuring public security.

The following direction is set in the Strategy for the Development of the Public Security System in the Republic of Uzbekistan for 2022-2025.

The Strategy serves as a methodological basis for the development of regulatory legal and departmental regulatory documents on further improving the activities of internal affairs bodies, military personnel of the National Guard and other competent bodies in ensuring public security. As a result of the implementation of the measures specified in the Strategy, the protection of the rights and freedoms of citizens, the interests of society and the state from unlawful encroachments will be qualitatively improved. The population's trust in the state bodies authorized to ensure public security will be increased through the early

prevention of offenses, including repeated offenses, and road traffic accidents, and the orientation of employees' service activities to assisting citizens.

In order to implement cooperation, subjects use all existing cooperation methods and methodologies in the process of cooperation in socio-legal activities. Our observations have led us to the following conclusions, namely:

- ❖ prevention of crimes committed by minors is never carried out by a single entity, and even when it is carried out, it will not be effective to the required extent without cooperation;
- ❖ prevention of all juvenile delinquency will only be effective if the cooperation of the regional authorities and the National Guard, schools, psychologists, and families is ensured, and control is under official control;
- ❖ the geography of cooperation between internal affairs bodies and National Guard officers is wide, but at one end of this geography, seasonal and ethnopsychological regions also play a specific role in preventing crimes committed by minors (i.e., juveniles). This is based on our practice and scientific analysis;
- ❖ the main purpose of our focus on the seasons and ethnopsychology is that in the summer, when the days are long and the nights are short, many people live in apartment buildings, sit idle on the hot street during the day, go to lakes and ponds and swim. This turns active recreation into passive recreation, creating the basis for recreation and committing offenses, such behavior by minors, direct and indirect offenses require the establishment of measures aimed at preventing them on a cooperative basis and improving the methodology of cooperation;
- ❖ when will measures to prevent crimes committed by minors be improved, when will the process of cooperation be implemented in professional activities.

At the same time, another idea was put forward, namely, if there is a cause that causes a crime, but there are no conditions, or vice versa, if there are conditions, but there is no cause, then in both cases the crime will not occur. We agree with this idea, but the cause is primary, even if there are no conditions, the cause seeks the conditions and ultimately the crime is committed, but if there are conditions but there is no cause, the conditions do not create the cause and the crime is not committed. G.F. Hegel also defined in his teachings that the cause is an active basis that sets conditions in motion, that causes can only be understood through their effects, or conversely, the nature of the effect can only be determined through its cause, since they require each other[3].

As a result of his research, A.Sh. Murodov conditionally divided the factors that cause crimes related to domestic violence into the following groups:

- a) unhealthy spiritual and psychological environment in the family;

- b) weakness or lack of spiritual and moral education in the family;
- d) antisocial behavior of a family member (members);
- e) financial shortages and difficulties in the family;
- f) addiction to alcohol by a family member (members);
- g) unreasonable (excessive) jealousy, betrayal of a man and a woman;
- h) early marriage, inappropriate interference in relations in a young family”[4].

The author's classification of factors causing crime into such groups is correct, but his classification creates certain problems in developing measures to eliminate the causes and conditions, applying them in practice, and distributing tasks between the entities responsible for preventing crime.

V.P. Kashepov equates juvenile delinquencies with "general" adult delinquencies, arguing that they are a consequence of socio-economic and political instability, emerging conflicts, and a violation of social and moral foundations [5].

M.K. Uteniyazov emphasizes that drug addiction among minors directly depends on the sum of objective and subjective factors. Objective factors include family conflicts, family members' alienation from each other, indifference, parents' overestimation of their own pedagogical capabilities and inattention to the social danger of drug addiction, the negative influence of the media, as well as the influence of informal groups on adolescents, indicating that drug addiction has become a tradition. The subjective aspects are expressed in such features as the low level of average activity among minors, the identification and adaptation of mental retardation and accentuation (seed system) features, the awakening of their high sensitivity and tendency to use drugs, the interest in drugs in adolescents, insufficient attention to the dangers of drug use, and suicide syndrome[6].

However, we believe that the objective and subjective factors of drug addiction among minors listed by M.K. Uteniyazov have become common and have not been fully explored. Education plays an important role in juvenile delinquency. At the same time, the personal characteristics of minors, lack of moral upbringing, underdevelopment of legal consciousness and legal culture are among the reasons leading to their committing crimes. Because whoever frivolously violates moral norms, he will certainly frivolously violate the law. Stealing small amounts of money from home, smoking, drinking, and violence against peers or those younger than him, at first for one purpose, for personal pleasure or to solve some problems in his mental state in this way or to show off to those around him, later all this no longer satisfies him, and as a result he tries to try new risky feelings. Also at this age, their need for money and valuables increases. For example, due to the lack of opportunity in the family to purchase modern

technical equipment: computers, various audio and video equipment, and mobile communication devices, many young people try to achieve their goals by robbing other people's property, shops or warehouses, or by secretly appropriating property belonging to close relatives or parents (most often in small amounts in their parents' clothes, bags, or other places where they keep money).

It can be said that it would be appropriate to study juvenile delinquency separately into subjective and objective causes and the conditions that enable them.

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**BEZ SEKRETSIYASINING ULTRASTRUKTURAVIY ASOSLARI VA
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Annotatsiya: Ushbu ilmiy maqolada bezli epiteliya hujayralarining (glandulotsitlar) submikroskopik darajadagi strukturaviy va funksional tashkil etilishi, shuningdek, sekretor siklning turli bosqichlaridagi molekulyar o'zgarishlar chuqur tahlil qilingan. Tadqiqotda sekretor granulalarning shakllanishida endoplazmatik to'r va Goldji majmuasining o'zaro hamkorligi, membranalarning konveyerli harakati hamda ekzositoz jarayonining energetik jihatlari yoritiladi. Shuningdek, maqolada organizmning barcha ichki muhit to'qimalari uchun universal manba bo'lgan mezenximaning sitologik xususiyatlari, uning multipotentlik tabiati va hujayralararo moddaning fizik-kimyoviy xossalari alohida urg'u berilgan. Mezenxima hujayralarining gistogenez jarayonidagi roli, ularning turli to'qima differensiyalariga (osteoblast, xondroblast, fibroblast) aylanish mexanizmlari hamda zamonaviy regenerativ tibbiyotdagi ahamiyati nazariy jihatdan asoslab berilgan.

Kalit so'zlar: Glandulotsit, endoplazmatik to'r, Goldji majmuasi, ekzositoz, mezenxima, gistogenez, multipotentlik, amorf modda, sekretor sikl, ultrastruktura, molekulyar biologiya.

KIRISH: Organizmdagi barcha fiziologik jarayonlar hujayralarning tashqi muhit bilan modda va axborot almashinuvi orqali boshqariladi. Bu tizimda bezli epiteliya alohida o'rin tutadi. Sekretsia — bu shunchaki modda ajratish emas, balki hujayraning genetik apparati nazorati ostida kechadigan murakkab biokimyoviy konveyerdir. Har bir glandulotsit o'ziga xos ultrastrukturaviy tuzilishga ega bo'lib, undagi organoidlarning rivojlanish darajasi sintez qilinayotgan mahsulotning kimyoviy tabiatiga bog'liq. Ikkinchi tomondan, organizmning barcha ichki muhit to'qimalari,

jumladan qon, suyak, tog‘ay va biriktiruvchi to‘qimalar o‘zining boshlang‘ich nuqtasini mezenximadan oladi. Mezenximaning ultrastrukturasini va uning differensiallanish mexanizmlarini tushunish, zamonaviy regenerativ tibbiyot va patologik jarayonlarni o‘rganishda fundamental poydevor vazifasini o‘taydi.

ASOSIY QISM: Bez hujayralarining submikroskopik darajadagi faoliyati o‘ta aniqlikda sozlangan "sekretor sikl" tushunchasi bilan bog‘liq. Bu jarayon hujayraning bazal qismidan zaruriy xomashyolarni qabul qilish bilan boshlanadi. Glandulotsitlar bazal membranasi orqali qon tomirlaridan aminokislotalar, monosaxaridlar va elektrolitlarni faol transport hamda pinotsitoz yordamida o‘zlashtiradi. Sintez bosqichida granulyar endoplazmatik to‘r (EPS) markaziy rolni egallaydi; uning membranalaridagi ribosomalarda sintezlangan polipeptid zanjirlari EPS bo‘shlig‘iga o‘tib, birlamchi konformatsiyaga ega bo‘ladi. Agar hujayra steroid yoki lipid tabiatli moddalar ishlab chiqarsa, bu jarayon silliq endoplazmatik to‘rda kechadi. Sintezlangan mahsulotlar keyinchalik kichik transport vesikulalari orqali Goldji majmuasining sis-yuzasiga ko‘chiriladi. Goldji majmuasi hujayraning "logistika markazi" sifatida sekretni quyuqlashtiradi, unga uglevod komponentlarini qo‘shadi va oqsillarni modifikatsiya qiladi. Bu yerda shakllangan tayyor sekretor granular membrana bilan o‘raladi, bu esa hujayra sitoplazmasini agressiv fermentlar ta‘siridan himoya qiladi. Sekretning tashqariga chiqarilishi (ekstruziya) turli mexanizmlar orqali amalga oshadi. Merokrin usulda hujayra butunligi saqlangan holda faqat mahsulot ekzositoz qilinadi. Apokrin usulda esa sekret bilan birga hujayraning apikal qismi ham ajralib chiqadi, bu sut bezlari uchun xosdir. Eng radikal usul — golokrin sekretsiyada, sekretor mahsulotni ajratish uchun hujayra butunlay parchalanib, o‘zi sekretga aylanadi. Bu murakkab ultrastrukturaviy o‘zgarishlar hujayra sitosketining mikronaychalari va mikrofilamentlari tomonidan boshqariladi. Mezenxima to‘qimasi esa o‘zining morfofunktsional xususiyatlari bilan yuqoridagi ixtisoslashgan bezlardan tubdan farq qiladi. U embrional davrning dastlabki bosqichlarida mezodermadan shakllanib, o‘ziga xos yulduzsimon yoki ko‘p qirrali hujayralardan tashkil topadi. Mezenxima hujayralari o‘zlarining uzun o‘siqlari orqali bir-biri bilan tutashib, fazoviy to‘rsimon strukturani yoki sintsiyini hosil qiladi. Ularning yadrolari yirik, xromatinga boy va yadrochalari aniq ko‘rinadigan bo‘lib, bu yuqori proliferativ (bo‘linish) faollikdan dalolat beradi. Hujayralararo modda mezenximada juda ko‘p miqdorda bo‘lib, u asosan suyuq amorf moddadan iborat. Gialuron kislotasining ko‘pligi sababli bu muhit gidrofil xususiyatga ega bo‘lib, rivojlanayotgan embrionda ozuqa moddalari va signal molekulalarining to‘siqsiz diffuziyasini ta‘minlaydi. Mezenximaning eng muhim xususiyati uning multipotentligidir, ya‘ni u barcha turdagi biriktiruvchi to‘qimalar, suyak va tog‘ay

to'qimasi, qon va limfa hujayralari, shuningdek, qon tomirlarning endoteliy qavati uchun universal manba bo'lib xizmat qiladi. Gistogenez jarayonida mezenxima hujayralari ma'lum bir genetik dastur asosida ixtisoslasha boshlaydi: ayrimlari kollagen sintez qilib fibroblastlarga aylansa, boshqalari mineral moddalarni to'plab osteotsitlarni hosil qiladi. Hattoki voyaga yetgan organizmda ham mezenximaning qoldiqlari qon tomirlar atrofida (peritsitlar) va ayrim to'qimalarda poyatuxm hujayralar ko'rinishida saqlanib qoladi. Bu esa shikastlangan a'zolarining regeneratsiyasi va tiklanishi uchun hayotiy zarurdir. Shunday qilib, glandulotsitlardagi sekretiya jarayoni va mezenximaning differensiallanish qobiliyati organizmning gomeostazini saqlashda o'zaro uyg'unlikda ishlaydigan ikki fundamental mexanizmdir.

XULOSA: bez sekretiya sinining ultrastrukturaviy asoslarini o'rganish hujayra ichidagi "konveyer" tizimining naqadar mukammal ekanligini ko'rsatadi. Har bir organoid — EPSdan to plazmolemmagacha — sekretor mahsulotning sifati va o'z vaqtida chiqarilishi uchun javobgardir. Mezenxima esa organizmning shakllanishi va yangilanishi uchun cheksiz imkoniyatlarga ega bo'lgan "ona to'qima" hisoblanadi. Ushbu ikki yo'nalishdagi bilimlar zamonaviy sitologiya, embriologiya va amaliy tibbiyotning, xususan, endokrinologiya va transplantologiya nazarini asosini tashkil etadi.

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NERV OXIRLARINING MORFOLOGIK TASNIFI VA IMMUNOKOMPETENT HUYAYRALARNING SITOLOGIK ASOSLARI

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Annotatsiya: Ushbu ilmiy maqolada periferik nerv tizimining terminal bo‘limlari bo‘lgan nerv oxirlarining (terminalia nervosa) ultrastrukturaviy tuzilishi, ularning retseptor, effektor va neyronlararo sinapslar ko‘rinishidagi funksional ixtisoslashuvi chuqur tahlil qilingan. Tadqiqotda sezuvchi nerv oxirlarining mexanoretseptor, xemoretseptor va termoretseptor kabi turlari, ularning kapsulali (Fater-Pachini, Meyssner tanachalari) va kapsulasiz shakllarining gistologik farqlari batafsil yoritiladi. Maqolaning kengaytirilgan qismida organizmning immunologik nazorat tizimi — immunokompetent hujayralarning (limfotsitlar, makrofaglar, plazmotsitlar) kelib chiqishi, ularning sitoplazmasidagi organoidlarning (ayniqsa, granulyar EPS va Goldji apparati) sekretor faollikdagi roli hamda antigen bilan hamkorlik qilish mexanizmlari o‘rganilgan. Shuningdek, immun javobning ikki turi — hujayraviy va gumoral immunitetning morfologik substratlari, sitokinlar orqali hujayralararo muloqotning gistofiziologik ahamiyati zamonaviy ilmiy qarashlar asosida tushuntirib berilgan.

Kalit so‘zlar: Terminalia nervosa, retseptor, effektor, neyromushak sinapsi, immunokompetent hujayralar, T-limfotsitlar, B-limfotsitlar, antigen taqdim etuvchi hujayralar, immunoglobulinlar, gistomoslik kompleksi (MHC), immunogenez.

KIRISH: Inson organizmining tashqi muhit bilan uzviy aloqasi va ichki muhit doimiyligini (homeostaz) saqlashda neyro-immunologik mexanizmlar markaziy o‘rin tutadi. Nerv oxirlari atrof-muhitdan kelayotgan fizik va kimyoviy qo‘zg‘atuvchilarni qabul qilib, ularni bioelektr impulsariga aylantirib beruvchi murakkab biologik transformatorlar vazifasini o‘taydi. Shu bilan birga, organizmning genetik butunligini begona agentlardan himoya qilish vazifasi immun tizimiga yuklatilgan. Immun tizimi

shunchaki alohida a'zolar yig'indisi emas, balki butun tana bo'ylab harakatlanuvchi va bir-biri bilan molekulyar darajada muloqot qiluvchi ixtisoslashgan hujayralar tizimidir. Nerv oxirlarining gistologik xilma-xilligi va immunokompetent hujayralarning ixtisoslashuvini o'rganish, organizmning umumiy fiziologik holatini va turli patologiyalarga qarshi rezistentligini tushunish imkonini beradi.

ASOSIY QISM: Nerv oxirlari (terminalia nervosa) neyronlar o'siqlarining so'nggi qismlari bo'lib, ular bajaradigan vazifasiga ko'ra uchta yirik guruhga bo'linadi: effektorlar, retseptorlar va neyronlararo sinapslar. Effektor nerv oxirlari qo'zg'alishni nerv hujayrasidan ishchi a'zolariga (mushak tolalari yoki bez epiteliyasiga) o'tkazadi. Harakatlantiruvchi nerv oxirlari (neyromushak sinapslari) skelet mushaklarida "motor plita" hosil qiladi; bu yerda aksonning terminal qismi sarkolemma bilan aloqaga kirishadi. Akson terminalida ko'p miqdorda mitoxondriyalar va atsetilxolin mediatorini saqlovchi sinaptik pufakchalar to'planadi. Sinaptik tirqishga ajralgan mediator mushak hujayrasining postsinaptik membranasidagi retseptorlar bilan bog'lanib, qisqarishni yuzaga keltiradi.

Sezuvchi nerv oxirlari yoki retseptorlar esa tashqi va ichki muhitdan qo'zg'atuvchilarni qabul qiladi. Ular gistologik tuzilishiga ko'ra erkin (faqat aksoplazma va aksolemmadan iborat) va erkin bo'lmagan (gliotsitlar bilan o'ralgan) turlarga bo'linadi. Erkin nerv oxirlari asosan epiteliy qavatida joylashgan bo'lib, og'riq va harorat impulslarini qabul qiladi. Erkin bo'lmagan kapsulali retseptorlar esa ancha murakkab bo'lib, ularga Fater-Pachini tanachalari (chuqur bosimni sezuvchi), Meyssner tanachalari (taktil sezgi), Krause kolbalari (sovuqni sezuvchi) va Ruffini tanachalari (issiqni sezuvchi) kiradi. Masalan, Fater-Pachini tanachasi markaziy kolba va tashqi kapsuladan iborat bo'lib, uning qatlamlari orasidagi suyuqlik mexanik bosimni nerv terminaliga uzatishda gidravlik kuchaytirgich vazifasini o'taydi. Immun jarayonlarning morfologik asosi bo'lgan immunokompetent hujayralar organizmning barcha to'qimalarida, ayniqsa qon, limfa va limfoid a'zolarida (taloq, limfa tugunlari) joylashgan. Bu hujayralarning asosiy vakillari limfotsitlardir. T-limfotsitlar suyak ko'migida hosil bo'lib, timusda differensiallanadi. Ular hujayraviy immunitetni ta'minlovchi bir necha subpopulyatsiyalarga: T-killerlar (to'g'ridan-to'g'ri destruksiya), T-xelperlar (immunitetni stimullash) va T-supressorlarga (immun javobni tormozlash) bo'linadi. T-killerlar nishon hujayra membranasida teshiklar hosil qiluvchi perforin va apoptozni chaqiruvchi granzim oqsillarini ajratadi. B-limfotsitlar esa gumoral immunitet uchun mas'ul bo'lib, antigen bilan to'qnashgandan so'ng plazmatik hujayralarga (plazmotsitlarga) aylanadi. Plazmotsitlar ultrastrukturasida granulyar endoplazmatik to'r sitoplazmaning deyarli barcha qismini egallaydi, bu esa

ularning soniyasiga minglab immunoglobulin (antitelo) molekulalarini sintez qilish qobiliyatini ta'minlaydi. Immun javobning shakllanishida antigen taqdim etuvchi hujayralar (makrofaglar, dendritli hujayralar) va limfotsitlar o'rtasidagi "kooperatsiya" yoki hamkorlik printsiplari juda muhim. Makrofaglar begona agentni fagositoz qilib, uning peptid parchalarini (antigen) o'z yuzasidagi II turdagi gistomoslik kompleksi (MHC-II) molekulalari bilan birga T-xelperga taqdim etadi. Faqatgina ushbu "tanib olish" jarayonidan so'ngina limfotsitlar bo'linishni va faol immun javobni boshlaydi. Hujayralar orasidagi bu muloqot maxsus mediatorlar — sitokinlar (interleykinlar, interferollar) yordamida amalga oshiriladi. Shunday qilib, nerv oxirlari orqali signallarni tezkor qabul qilish va immunokompetent hujayralar orqali begona agentlarga spetsifik javob qaytarish organizmning biologik xavfsizlik zanjirini hosil qiladi.

Xulosa: shu o'rnida aytish mumkinki, nerv oxirlari va immunokompetent hujayralar organizmning sezgi va himoya tizimlarining eng mukammal morfologik substratlaridir. Nerv oxirlarining ixtisoslashuvi tananing fazoviy va sensor orientatsiyasini ta'minlasa, immun hujayralar molekulyar darajadagi "begona-o'z" farqlash tizimi orqali organizmning genetik barqarorligini himoya qiladi. Ushbu ikki tizimning ultrastrukturaviy asoslarini chuqur o'rganish amaliy tibbiyotda neyropatiyalar, allergik reaksiyalar va immunodefitsit holatlarni diagnostika qilish hamda davolashda fundamental ahamiyatga ega.

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**FARMATSEVTIKA SOHASI VA TIBBIY AMALIYOTDA LOTIN TILINING
FUNDAMENTAL AHAMIYATI: NAZARIYA VA AMALIYOT
INTEGRATSIYASI.**

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Annotatsiya: Ushbu ilmiy maqolada lotin tilining zamonaviy farmatsevtika tizimidagi o'rnini. Maqolada farmatsevtik terminologiyaning shakllanishi, dori vositalarining nomenklaturaviy tasnifi, botanik va kimyoviy atamalarining lingvistik xususiyatlari hamda retseptura yozishning qat'iy qoidalari haqida keng qamrovli ma'lumotlar berilgan. Tadqiqotda lotin tilining nafaqat muloqot vositasi, balki farmatsevtik texnologiya va dori turlarini standartlashtirishda huquqiy va professional asos ekanligi dalillangan. Maqola soha mutaxassislari, talabalar va farmatsevtika tarixiga qiziquvchilar uchun mo'ljallangan bo'lib, unda dori shakllari, o'simlik qismlari va kimyoviy birikmalarning lotincha ifodalanishi mantiqiy ketma-ketlikda yoritiladi.

Kalit so'zlar: Lotin tili, farmatsevtika, terminologiya, retseptura, nomenklatura, dori shakllari, farmakognoziya, xalqaro farmakopeya, binar nomenklatura, grammatik tahlil.

Kirish: Farmatsevtika fani insoniyat salomatligini saqlashda strategik ahamiyatga ega bo'lib, uning tili asrlar davomida lotin tili asosida shakllanib kelgan. Lotin tili farmatsevt uchun shunchaki o'quv fani emas, balki kasbiy faoliyatning ajralmas qurolidir. Dunyo bo'ylab dori vositalarining tarkibi, ularning tayyorlanish usullari va dozalari aynan lotin tilida yozilishi mutaxassislarning o'rtasidagi tushunmovchiliklarni bartaraf etadi. Ushbu tilning "o'lik til" deb atalishi uning rivojlanishdan to'xtaganini emas, balki uning o'zgaras qoidalarga ega bo'lib, fan

uchun barqaror poydevor yaratganini anglatadi. Farmatsevtika ta'limida lotin tilini o'rganish talabaniing tibbiy tafakkurini shakllantiradi, unga dori moddalarining kelib chiqishi, kimyoviy tuzilishi va farmakologik ta'sirini nomlanishiga qarab anglab etish imkonini beradi. Mazkur maqolada lotin tilining farmatsevtika amaliyotidagi ko'p qirrali ahamiyati, uning grammatik qonuniyatlari va dori vositalari nomenklaturasidagi o'rni batafsil ko'rib chiqiladi.

Asosiy qism: Farmatsevtika sohasida lotin tilining qo'llanilishi juda keng qamrovli bo'lib, u dori vositalarining xalqaro miqyosdagi yagona nomlanish tizimini ta'minlaydi. Farmatsevtik terminologiya uchta yirik yo'nalishni o'z ichiga oladi: botanik nomenklatura, kimyoviy nomenklatura va bevosita dori shakllari nomenklaturasi. Botanik nomenklaturada Karl Linney tomonidan asos solingan binar (ikki so'zli) tizim qo'llaniladi, bunda birinchi so'z o'simlik turkumini (masalan, Rosa — na'matak), ikkinchi so'z esa uning turini (masalan, canina — it na'matagi) bildiradi. Bu tizim farmakognoziya fanida o'ta muhim bo'lib, dorivor o'simlik xomashyolarini yig'ish va qayta ishlashda chalkashliklarning oldini oladi. Masalan, o'simlikning qaysi qismi ishlatilishini ko'rsatishda Radix (ildiz), Rhizoma (ildizpoya), Cortex (po'stloq), Folium (barg), Flos (gul), Fructus (meva) kabi atamalar qo'llaniladi. Kimyoviy nomenklaturada esa moddalarning lotincha nomlari ularning elementar tarkibini aks ettiradi; masalan, tuzlar nomini hosil qilishda metal nomi Qaratqich kelishigida (Genetivus), kislota qoldig'i esa Bosh kelishigida (Nominativus) yoziladi. Bu qoidaga ko'ra, Magnesii sulfas (Magniy sulfat) yoki Calcii chloridum (Kalsiy xlorid) kabi nomlar dori moddasining aniq kimyoviy tabiatini ko'rsatadi.

Dori shakllarini hosil qilishda ham lotin tilining grammatik imkoniyatlaridan keng foydalaniladi. Dori vositalari o'zining agregat holatiga ko'ra qattiq (Solida), yumshoq (Mollia), suyuq (Liquida) va gazsimon turlarga bo'linadi. Har bir dori shakli o'zining lotincha nomiga ega: Tabuletta (tabletk), Capsula (kapsula), Unguentum (malham), Solutio (eritma), Tinctura (nastoyka), Suppositorium (shamcha) va hokazo. Retsept yozish jarayonida dori shakli va modda nomi o'rtasidagi grammatik bog'lanish o'ta muhimdir. Odatda dori shakli Bosh kelishikda, dori moddasi esa Qaratqich kelishigida keladi: Solutio Iodi (Yod eritmasi), Unguentum Synthomycini (Sintomitsin malhami). Retseptning o'zagi bo'lgan "Designatio materiarum" (dori moddalari ro'yxati) qismida har bir komponent yangi satrdan va bosh harf bilan yoziladi, bu esa farmatsevtga tarkibiy qismlarni bir-biridan tezda ajratib olishga yordam beradi.

Retseptura nazariyasida lotin tili buyruq maylidagi fe'llar orqali farmatsevtga ko'rsatmalar berish vazifasini ham bajaradi. Misce (aralashtir), Da (ber), Signa

(belgila) kabi qisqa va aniq buyruqlar farmatsevtik jarayonning asosiy bosqichlarini belgilab beradi. Shuningdek, murakkab dori shakllarini tayyorlashda Misce, fiat pulvis (Aralashtir, kukun hosil bo'lsin) yoki Misce, fiant pilulae (Aralashtir, pilyulalar hosil bo'lsin) kabi iboralar dori vositasining yakuniy ko'rinishini belgilaydi. Lotin tilining yana bir muhim jihati dori vositalarining standartlashtirilishidir. Davlat Farmakopeyasi (Dori-darmonlar to'plami) barcha moddalarning sifat ko'rsatkichlarini aynan lotincha nomlar ostida tasniflaydi. Bu esa bir mamlakatda ishlab chiqarilgan dorini boshqa bir mamlakatda xatosiz tanib olish va qo'llash imkonini beradi. Masalan, antibiotiklar yoki vitaminlar nomenklaturasida qo'llaniladigan prefiks va suffiksalar (-mycinum, -cyclinum, -oestrolum) moddaning qaysi farmakologik guruhga tegishli ekanligini mutaxassisga darhol bildiradi. Shunday qilib, lotin tili farmatsevtika sohasida mantiqiy, grammatik va texnologik birlikni ta'minlovchi yagona tizim sifatida xizmat qiladi.

Xulosa: Xulosa o'rnida aytish mumkinki, lotin tili farmatsevtika sohasining o'tmishi, buguni va kelajagini bog'lab turuvchi ko'prikdir. Lotin tili orqali dori vositalarining nomenklaturasi, ularning kimyoviy va botanik xususiyatlari, shuningdek, retseptura tizimi qat'iy tartibga solingan. Ushbu tilning farmatsevtikada qo'llanilishi nafaqat an'ana, balki hayotiy zaruriyatdir, chunki inson salomatligi bilan bog'liq jarayonlarda aniqlik eng ustuvor vazifadir. Lotin tilini mukammal bilgan farmatsevt har qanday dori tarkibini tahlil qila oladi va xalqaro miqyosda o'z kasbiy mahoratini namoyish eta oladi.

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QON VA UNING YARATILISHI (GEMOPOEZ): MORFOFUNKSIONAL ANATOMIYA VA ZAMONAVIY GEMATOLOGIK KONSEPSIYALAR

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Annotatsiya: Ushbu ilmiy maqolada inson organizmining "suyuq to'qimasi" bo'lgan qonning tarkibi, uning fiziologik vazifalari hamda qon yaratilish (gemopoez) jarayonlarining sitofiziologik mexanizmlari keng qamrovli tahlil qilingan. Maqolada qonning shaklli elementlari — eritrotsitlar, leykotsitlar va trombotsitlarning morfologik xususiyatlari, ularning yashash davomiyligi va ultrastrukturaviy tuzilishi yoritiladi. Shuningdek, qon yaratuvchi a'zolar (suyak ko'migi, timus, taloq, limfa tugunlari) anatomiyasi va gemopoezning zamonaviy "poyatuxm hujayra" nazariyasi bayon etilgan. Maqolaning innovatsion qismida esa poyatuxm hujayralar transplantatsiyasi, sun'iy qon yaratish texnologiyalari va qon tizimi kasalliklarini gen muhandisligi orqali davolashning istiqbollari ilmiy asoslab berilgan.

Kalit so'zlar: Qon, plazma, eritrotsit, gemopoez, suyak ko'migi, poyatuxm hujayra, limfotsit, gemoglobin, Ahmedov anatomiyasi, gemostaz.

KIRISH: Qon (sanguis) — organizmning ichki muhitini tashkil etuvchi maxsus biriktiruvchi to'qima bo'lib, u barcha a'zo va tizimlarni yagona funksional butunlikka birlashtiradi. Voyaga yetgan inson tanasida o'rta hisobda 5 litr qon bo'lib, u transport, himoya, termoregulyatsiya va gomeostatik funksiyalarni bajaradi. Qon tizimi

shunchaki aylanib yuruvchi suyuqlik emas, balki qon yaratuvchi a'zolar, qonning shaklli elementlari va uni boshqaruvchi neyrogumoral mexanizmlarning murakkab majmuasidir.

Qon hujayralarining hayoti cheklanganligi sababli (masalan, eritrotsitlar 120 kun yashaydi), organizmda ularning tinimsiz yangilanishi — gemopoez jarayoni kechadi. Ushbu jarayonning buzilishi anemiyalar, leykofozlar va boshqa og'ir patologiyalarga olib keladi. Shu sababli, qon yaratilishining anatomik va gistologik asoslarini chuqur o'rganish zamonaviy tibbiyotning fundamental yo'nalishlaridan biri hisoblanadi.

ASOSIY QISM: Qon ikki asosiy qismdan: suyuq muhit — plazma (55-60%) va shaklli elementlardan (40-45%) iborat. Shaklli elementlar uch guruhga bo'linadi: eritrotsitlar (qizil qon tanachalari), leykotsitlar (oq qon tanachalari) va trombotsitlar (qon plastinkalari). Eritrotsitlar — ikki tomoni botiq disk shaklidagi hujayralar bo'lib, ularning tarkibidagi gemoglobin oqsili kislorod va karbonat angidrid transportini ta'minlaydi. Ularning bunday shakli sirt yuzasini kengaytirib, gaz almashinuvini tezlashtiradi. Leykotsitlar esa organizmning "biologik xavfsizligi"ni ta'minlovchi immun hujayralar bo'lib, ular granulotsitlar (neytrofil, eozinofil, bazofil) va agranulotsitlar (limfotsit, monotsit)ga bo'linadi.

Qon yaratilishi (gemopoez) jarayoni embrional va postnatal davrlarga bo'linadi. Postnatal davrda qon yaratilishining markaziy a'zosi — qizil suyak ko'migi (medulla ossium rubra) hisoblanadi. U yassi suyaklar va uzun naysimon suyaklarning epifizlaridagi g'ovak modda bo'shliqlarida joylashgan. Zufarov darsliklarida bayon etilgan gemopoezning zamonaviy nazariyasiga ko'ra, barcha qon hujayralari bitta umumiy manba — polipotent poyatuxm hujayrasidan (PPH) boshlanadi. PPH o'z-o'zini tiklash va har qanday turdagi qon hujayrasiga differentsiallanish qobiliyatiga ega. Gemopoez jarayoni bir necha bosqichdan (sinf) iborat bo'lib, unda blast (yosh) hujayralar bosqichma-bosqich yetuk hujayralarga aylanadi.

Gemopoezning regulyatsiyasida maxsus gormonlar — gemopoetinlar (masalan, buyrakda sintezlanuvchi eritropoetin) va sitokinlar muhim rol o'ynaydi. T- va B-limfotsitlarning shakllanishi esa alohida kechadi: B-limfotsitlar suyak ko'migida, T-limfotsitlar esa timusda (ayrisimon bez) yetiladi va keyinchalik "o'qitish" (antigenni tanish) uchun taloq va limfa tugunlariga yo'llanadi. Qon yaratuvchi a'zolar mikro-anatomiyasining o'ziga xosligi shundaki, bu yerda qon tomirlari (sinusoid kapillyarlar) nihoyatda keng va o'tkazuvchan bo'lib, yangi hosil bo'lgan hujayralarning umumiy qon oqimiga to'siqsiz chiqishini ta'minlaydi. Gematologiya sohasidagi bugungi inqilobiy yangiliklar qon yaratish tizimidagi patologiyalarni radikal davolashga qaratilgan.

Poyatuxm hujayralar transplantatsiyasi (suyak ko'migini ko'chirib o'tkazish) bugungi kunda leykemiya va aplastik anemiya kabi ilgari davosiz hisoblangan kasalliklarda yagona najot bo'lib xizmat qilmoqda. Shuningdek, genetik muhandislik yordamida CAR-T hujayra terapiyasi ishlab chiqildi: bunda bemorning o'z limfotsitlari laboratoriyada "qayta dasturlanib", saraton hujayralarini aniqlash va yo'q qilish qobiliyati beriladi.

Yana bir muhim yangilik — sun'iy eritrotsitlar (qon o'rnini bosuvchi suyuqliklar) yaratilishi ustidagi izlanishlardir. Nano-texnologiyalar yordamida yaratilayotgan sun'iy gemoglobin tashuvchilar donor qoniga bo'lgan ehtiyojni kamaytirish va favqulodda holatlarda hayotni saqlab qolish imkonini beradi. Bundan tashqari, 3D-bioprinting orqali suyak ko'migi "nikhalarini" (niche) yaratish ustida ishlanmoqda, bu esa laboratoriya sharoitida cheksiz miqdorda qon hujayralarini yetishtirish imkonini berishi kutilmoqda.

XULOSA: Xulosa qilib aytganda, qon va uning yaratilishi organizmning hayotiyligini ta'minlovchi eng dinamik tizimdir. Ahmedov va Zufarov darsliklaridagi fundamental anatomik-gistologik tushunchalar bugungi zamonaviy gematologiyaning poydevori bo'lib xizmat qilmoqda. Poyatuxm hujayralar nazariyasining amaliyotga tatbiq etilishi tibbiyotda yangi "regenerativ davr"ni boshlab berdi.

Qon tizimidagi har bir hujayraning morfologik butunligi organizmning immun va metabolik barqarorligini belgilaydi. Kelajakda gen tahrirlash (CRISPR) va sun'iy intellektga asoslangan diagnostika usullari qon kasalliklarini hatto hujayra darajasida, simptomlar paydo bo'lishidan oldin aniqlash va bartaraf etish imkonini beradi. Biroq, qon yaratish tizimini tabiiy asrash — sog'lom turmush tarzi, to'g'ri ovqatlanish va ekologik tozalik har qanday yuqori texnologiyadan samaraliroq bo'lib qolaveradi.

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**JIGARNING MORFOFUNKSIONAL ANATOMIYASI: KLASSIK
TA'LIMOTDAN ZAMONAVIY GEPATOLOGIK
INNOVATSIYALARGACHA**

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Annotatsiya: Ushbu ilmiy maqola inson organizmidagi eng yirik bez — jigarining (hepar) makroskopik va mikroskopik anatomiyasini klassik yondashuvlar hamda zamonaviy ultrastrukturaviy tadqiqotlar sintezi asosida yoritadi. Maqolada jigarining topoografiyasi, golotopiyasi va skeletotopiyasi, shuningdek, a'zoning fiksatsiya apparati, visseral yuzasidagi egatlar tizimi va "H" shaklidagi tuzilmalar batafsil tahlil qilingan. Jigarining dual qon aylanish tizimi va Kuino bo'yicha sakkizta funksional segmentining jarrohlik amaliyotidagi o'rni kengaytirilgan holda ko'rsatib o'tilgan. Asosiy qismda jigar patologiyalarining (gepatit, steatoz, sirroz) etiopatogenezi, Disse bo'shlig'idagi molekulyar almashinuvlar, gepatotsitlar metabolizmi va bugungi kundagi inqilobiy yangiliklar — 3D-bioprinting, CRISPR gen tahrirlash hamda jigar organoidlarini yetishtirish texnologiyalari ilmiy tahlil qilingan.

Kalit so'zlar: Hepar, gepatotsit, jigar triadası, Gisson kapsulasi, Disse bo'shlig'i, segmentar tuzilish, detoksikatsiya, 3D-bioprinting, CRISPR, regeneratsiya.

KIRISH: Jigar (hepar) — qorin bo'shlig'ining yuqori qismida, o'ng qovurg'a osti sohasida joylashgan, inson salomatligi uchun hayotiy zarur bo'lgan universal "biokimyoviy zavod"dir. Anatomik jihatdan u organizmdagi eng yirik ekzokrin bez bo'lib, o'rta hisobda 1,5–2 kg vaznga ega. Jigar nafaqat hazm qilishda ishtirok etuvchi safro ishlab chiqaradi, balki homila davrida qon hosil qilish a'zosi, voyaga yetganlarda esa asosiy detoksikatsiya va metabolik markaz vazifasini o'taydi. Uning o'ziga xos

dual qon bilan ta'minlanishi — vena portae orqali venoz va arteria hepatica propria orqali arterial qonning kelishi — jigarni tanadagi yagona "ajoyib to'r" (rete mirabile) tizimiga ega a'zoga aylantiradi. Bugungi kunda jigar anatomiyasini chuqur o'rganish, undagi patologik o'zgarishlarni molekulyar darajada davolashning yangi istiqbollarini ochmoqda.

ASOSIY QISM: Jigarning anatomik tuzilishi uning tashqi konfiguratsiyasi va ichki segmentar arxitektonikasi bilan belgilanadi. Jigar ikki yuzaga (facies diaphragmatica va facies visceralis) hamda ikkita chekkaga ega. Visseral yuzasidagi ikkita bo'ylama va bitta ko'ndalang egat "H" harfini eslatib, a'zoni o'ng, chap, kvadrat (lobus quadratus) va dumli (lobus caudatus) bo'laklarga ajratadi. Ko'ndalang egatda jigar darvozasi (porta hepatis) joylashgan bo'lib, bu yerdan jigar arteriyasi, portal vena va nervlar kiradi, umumiy jigar yo'li va limfa tomirlari chiqadi. Zamonaviy xirurgik anatomiyada Kuino tasnifi yetakchi o'rin tutadi: jigar qon tomirlari va o't yo'llarining tarqalishiga ko'ra 8 ta mustaqil segmentga bo'linadi. Har bir segment o'zining glisson tizimiga ega bo'lib, bu jigar rezektsiyasida qon ketishini minimallashtirish va sog'lom to'qimani maksimal darajada asrash imkonini beradi.

Mikroskopik darajada jigar parenximasi jigar bo'lakchalaridan (lobulus hepatis) tashkil topgan bo'lib, ular Gisson kapsulasidan kirgan biriktiruvchi to'qima qatlamlari bilan o'ralgan. Jigar sinusoidlari devori va gepatotsitlar o'rtasida joylashgan Disse bo'shlig'i (spatium perisinusoideum) modda almashinuvi uchun asosiy maydon hisoblanadi. Bu yerda gepatotsitlar qon plazmasi bilan bevosita aloqa qiladi va hayotiy muhim oqsillarni (albumin, fibrinogen) qonga chiqaradi. Patologik jarayonlarda, ayniqsa jigar sirrozida, bu bo'shliqda joylashgan Ito hujayralari faollashib, retikulyar tolalarni kollagenga aylantiradi. Natijada jigar to'qimasi qattiqlashadi, qon oqishi qiyinlashadi va portal gipertenziya rivojlanadi. Ahmedov darsliklarida ta'kidlanganidek, jigarning regeneratsiya xususiyati juda yuqori bo'lib, uning 70% qismi olib tashlanganda ham, qolgan hujayralar gipertrofiyasi va proliferatsiyasi hisobiga o'z hajmini qayta tiklay oladi. Gepatotsitlar ultrastrukturasining molekulyar darajadagi tahlili jigarning metabolik moslashuvchanligini ochib beradi. Hujayra ichidagi peroksisomalar va silliq endoplazmatik to'ring (sEPS) rivojlanishi nafaqat dori vositalari metabolizmi, balki gormonlar almashinuvi va safro kislotalari sintezi uchun ham javobgardir. Zamonaviy klinik tadqiqotlar shuni ko'rsatadiki, gepatotsitlardagi Goldji apparati va lizosomalarning o'zaro uyg'unligi autofagiya jarayonini ta'minlaydi, bu esa jigarni hujayra ichidagi "axlat"lardan tozalaydi. Agar bu tizim buzilsa, jigarda steatoz (yog' bosishi) rivojlanadi. Hozirgi kunda olimlar jigar ichidagi Kupffer hujayralari (makrofaglar) va sinusoid endotelial hujayralarining

muloqotini o'rganish orqali jigar immunitetini boshqarish, ya'ni surunkali yallig'lanishni to'xtatish mexanizmlari ustida ish olib bormoqdalar.

Eng so'nggi ilmiy yutuqlardan biri — bu jigar organoidlarini (mini-jigar) yetishtirishdir. Bemorning o'z poyatuxm hujayralaridan olingan bu mikroskopik modellar dori vositalarining gepatotoksikligini shaxsiylashtirilgan tarzda tekshirish imkonini beradi. Klinik amaliyotda esa robotlashtirilgan transplantologiya va normotermik ex-vivo perfuziya texnologiyasi donor jigarni tanadan tashqarida 24 soatdan ortiq vaqt davomida "hayotiy" holatda saqlash va hatto uning sifatini (masalan, yog'li jigar holatini) yaxshilash imkonini bermoqda. 3D-bioprinting texnologiyasi yordamida esa gepatotsitlar va tomirlar to'rini o'z ichiga olgan tirik to'qima bloklari yaratilmoqda. Shuningdek, CRISPR/Cas9 yordamida gepatit B virusining DNKini hujayra ichidan butunlay yo'q qilish bo'yicha tadqiqotlar insoniyatni surunkali virusli kasalliklardan butunlay xalos etish arafasida turibdi.

XULOSA: Xulosa qilib aytganda, jigar — anatomik va funksional jihatdan organizmning eng murakkab hamda plastik a'zosidir 3D-biotexnologiya, gen tahrirlash va organoidlar yaratish kabi innovatsiyalar yaqin kelajakda jigar kasalliklarini davolashda "pichoqsiz" va "donorsiz" texnologiyalarga o'tish imkonini beradi. Bundan tashqari, sun'iy intellekt (AI) yordamida jigar patologiyalarini erta bosqichda diagnostika qilish — masalan, fibroz darajasini elastografiya ma'lumotlarini avtomatlashtirilgan tahlil qilish orqali aniqlash — bugungi kun tibbiyotining ajralmas qismiga aylandi. Ushbu yuksak yutuqlarga qaramay, jigarning tabiat tomonidan berilgan anatomik butunligini asrash va uning profilaktikasi (parhez, toksinlardan himoya) salomatlikning eng birlamchi garovi bo'lib qolaveradi. Kelajak tibbiyotining asosiy maqsadi — nafaqat jigar funksiyasini dori bilan ushlab turish, balki poyatuxm hujayralar va bio-texnologiyalar yordamida a'zoning to'liq morfologik regeneratsiyasiga erishishdir.

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DORI MODDALARNING KIMYOVIY SINTEZI VA ULARNING FARMAKOLOGIK FAOLLIGI

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Sergeli jamoat salomatligi texnikumi o'qituvchisi

Annotatsiya. Ushbu maqolada dori moddalarning kimyoviy sintezi usullari, ularning kimyoviy tuzilmasi va farmakologik faolligi o'rtasidagi bog'liqlik tahlil qilinadi. Kimyoviy sintez yangi dori vositalarini yaratishda asosiy rol o'ynaydi va molekulyar tuzilishdagi kichik o'zgarishlar dori samaradorligi hamda xavfsizligiga sezilarli ta'sir ko'rsatadi. Maqolada tabiiy va sintetik dori moddalari sintezi, strukturaviy modifikatsiyalar, ularning biologik ta'siri, shuningdek zamonaviy sintez texnologiyalari haqida batafsil ma'lumot berilgan.

Аннотация. В данной статье анализируются методы химического синтеза лекарственных веществ, связь между их химической структурой и фармакологической активностью. Химический синтез играет ключевую роль в создании новых лекарственных средств, при этом небольшие изменения в молекулярной структуре значительно влияют на эффективность и безопасность препаратов. В статье подробно рассмотрены синтез природных и синтетических лекарственных соединений, структурные модификации, их биологическое действие, а также современные технологии синтеза.

Abstract. This article analyzes the chemical synthesis methods of drug substances and the relationship between their chemical structure and pharmacological activity. Chemical synthesis plays a key role in the development of new pharmaceuticals, with small changes in molecular structure significantly impacting drug efficacy and safety. The article provides detailed information on the synthesis of natural and synthetic drugs, structural modifications, their biological effects, and modern synthesis technologies.

Ta'limning asosiy mazmuni: Zamonaviy farmatsevtika va tibbiyot fanining rivojlanishida kimyo, ayniqsa organik kimyo fanining tutgan o'rni beqiyosdir. Aynan shu fan dori moddalarning kimyoviy sintezi, ularning molekulyar tuzilmasini chuqur o'rganish, strukturaviy modifikatsiyalarni amalga oshirish orqali yangi va samarali dori vositalarini yaratish imkonini beradi. Shu bois, farmatsevtika yo'nalishidagi ta'lim jarayonining asosiy mazmuni sifatida kimyoviy sintez asoslarini, sintez qilingan

birikmalarning farmakologik xususiyatlarini tahlil qilish, biologik faol moddalarning tuzilma–faollik bog‘liqligini o‘rgatish muhim ahamiyat kasb etadi.

Ta’lim jarayonida talabalar nafaqat nazariy bilimlarga ega bo‘lishlari, balki amaliy jihatdan ham sintez usullarini o‘zlashtirishlari lozim. Bu esa ularni dori moddalarning yaratilishi, sinovdan o‘tkazilishi va farmakologik samaradorligining baholanishi kabi bosqichlar bilan tanishtiradi. Ayniqsa, kichik strukturaviy o‘zgarishlar natijasida dori moddasining biologik faolligi, toksikligi yoki metabolizm xususiyatlari sezilarli darajada o‘zgarishi mumkinligi haqida chuqur bilim berilishi zarur.

Shuningdek, ta’limning mazmuni ichida sintez qilingan moddalarning biologik tizimlardagi o‘zaro ta’siri, retseptorlar bilan bog‘lanish mexanizmlari, dori-dori o‘zaro ta’siri kabi konseptlar muhim o‘rin tutadi. Bular orqali talabalar yangi farmakologik agentlar ishlab chiqishda ilmiy asoslangan yondashuvlarga ega bo‘ladilar.

Yuqori darajadagi bilimlarni shakllantirish uchun eksperimental ishlar, laboratoriya mashg‘ulotlari, ilmiy-tadqiqot loyihalari ta’limning ajralmas qismi hisoblanadi. Bu orqali talabalarda analitik fikrlash, muammoli vaziyatlarni hal qilish va mustaqil ilmiy izlanish olib borish qobiliyatlari rivojlanadi.

Shunday qilib, kimyo fanining dori vositalarini yaratishdagi o‘rni va ahamiyatini chuqur o‘rgatish, zamonaviy sintez texnologiyalarini amaliyotda qo‘llashga tayyor mutaxassislarni yetishtirish ta’limning asosiy maqsadlaridan biri hisoblanadi.

Ta’limning maqsadi: Farmatsevtika sohasida dori vositalarining yaratilishi, ularning samaradorligi va xavfsizligini ta’minlashda kimyoviy sintez muhim o‘rin tutadi. Ushbu yo‘nalishdagi ta’limning asosiy maqsadi — talabalarni dori moddalarning kimyoviy sintezi, tuzilishi va farmakologik faolligi o‘rtasidagi bog‘liqlikni chuqur anglashga yo‘naltirishdir.

Ta’lim jarayonida talabalar turli sintez usullari, organik reaksiyalar va ularning farmakologik xususiyatlarga ta’sirini o‘rganadilar. Shu bilan birga, ular dori moddalarning strukturaviy modifikatsiyasi, SAR (Structure–Activity Relationship — Tuzilma-Faollik Munosabati) tahlili, va yangi biologik faol birikmalarni loyihalash tamoyillarini o‘zlashtiradilar.

Ushbu maqsadlar orqali talabalar:

- dori moddalarning molekulyar asoslarini tahlil qilish;
- turli sintez metodlarini amaliyotda qo‘llash;
- biologik faollikni prognoz qilish;
- yangi dori vositalarini yaratish uchun ilmiy asoslangan yondashuvlarni qo‘llash;
- zamonaviy farmatsevtik sintez texnologiyalarini o‘rganish;

kabi bilim, ko‘nikma va kompetensiyalarga ega bo‘ladilar.

Shunday qilib, ta'limning bosh maqsadi — kelajakdagi farmatsevtlar va kimyogarlarni dori moddalari sohasida mustaqil tahlil, tadqiqot va innovatsion ishlanmalarni olib borishga qodir, malakali mutaxassis sifatida shakllantirishdan iboratdir.

Dori vositalarining farmakologik ta'siri ularning molekulyar tuzilishiga, kimyoviy xususiyatlariga va organizmda ta'sir mexanizmlariga bog'liq. Farmatsevtik kimyo sohasida yangi samarali va xavfsiz dori preparatlarini yaratish uchun kimyoviy sintez texnologiyalari doimiy ravishda takomillashib bormoqda. Ushbu jarayonda tabiiy moddalarning o'zgartirilishi, sintetik analoglarning ishlab chiqilishi va molekulyar dizayn muhim ahamiyat kasb etadi. Shuningdek, farmakologik faollikni oshirish, yon ta'sirlarni kamaytirish va dori vositalarining maqsadli yetkazilishi uchun kimyoviy sintez usullari keng qo'llaniladi.

Dori moddalarning kimyoviy sintezi va ularning farmakologik faolligi: Dori vositalari inson salomatligini saqlash va turli kasalliklarni davolashda muhim o'rin tutadi. Ularning samaradorligi va xavfsizligi ko'p jihatdan kimyoviy tuzilishi va farmakologik faolligiga bog'liq. Shu sababli farmatsevtik kimyo sohasida dori moddalarning kimyoviy sintezi va ularning biologik ta'sir mexanizmini o'rganish muhim ahamiyat kasb etadi.

Kimyoviy sintez usullari: Dori vositalarini yaratishda kimyoviy sintezning roli juda katta. Organik kimyo usullari yordamida tabiiy manbalardan olinadigan moddalarning analoglari va sintetik birikmalar ishlab chiqiladi. Ushbu usullar orqali dori molekulalarining tuzilishi o'zgartiriladi, yangi funksional guruhlar qo'shiladi yoki olib tashlanadi. Bu esa ularning biologik faolligi va retseptorlarga bog'lanish xususiyatlarini yaxshilashga imkon beradi.

Kimyoviy sintez jarayonida katalizatorlar va enzimlardan foydalanish ayniqsa samarali hisoblanadi. Katalizatorlar reaksiyalarni tezlashtirib, maqsadga muvofiq mahsulotni yuqori selektivlik bilan olish imkonini beradi. Enzimatik sintez esa tabiiy jarayonlarga yaqin bo'lib, yuqori stereoselektivlik va ekologik tozalikka ega.

Kimyoviy tuzilish va farmakologik faollik: Dori molekulasining kichik kimyoviy o'zgarishlari uning farmakologik xususiyatlariga sezilarli ta'sir ko'rsatadi. Masalan, molekulaga qo'shilgan yangi funksional guruhlar dori retseptorlari bilan o'zaro ta'sir kuchini oshirishi yoki kamaytirishi mumkin. Bundan tashqari, molekuladagi stereokimyoviy konfiguratsiya dori vositasining terapevtik samaradorligi va yon ta'sirlarini belgilaydi.

Misol uchun, talidomid dori vositasining stereoisomerlaridan biri terapevtik ta'sirga ega bo'lsa, ikkinchisi teratogenlikka olib kelgan. Bu holat dori sintezida stereokimyoviy aniqlikni ta'minlashning muhimligini ko'rsatadi.

Dori moddalarning kimyoviy sintezi va ularning qo‘llanilishi: Paratsetamol va aspirin kabi keng tarqalgan dori vositalari kimyoviy sintez yo‘li bilan olinadi. Paratsetamol oddiy sintez jarayoni orqali olinib, og‘riqni kamaytiruvchi va isitma tushiruvchi xususiyatlarga ega. Aspirin esa salisilik kislotasining asetillanishi natijasida hosil bo‘lib, yallig‘lanishga qarshi va qon ivishining oldini olish xususiyatlariga ega.

Antibiotiklar sintezi esa ko‘proq murakkab bo‘lib, ko‘pincha tabiiy moddalarning yarim sintetik modifikatsiyasi orqali amalga oshiriladi. Penitsillin va uning turlari shu yo‘l bilan ishlab chiqarilib, bakterial infektsiyalarni davolashda keng qo‘llaniladi.

Zamonaviy texnologiyalar va istiqbollar: Bugungi kunda dori sintezida kompyuter yordamida molekulyar dizayn va modellash keng qo‘llanmoqda. Bu texnologiyalar yangi dori molekulalarining retseptorlarga bog‘lanishini oldindan baholash va samarali sintez yo‘nalishini aniqlash imkonini beradi.

Shuningdek, nano-o‘lchamdagi dori tashish tizimlari yaratilmoqda. Bu tizimlar dori vositalarining maqsadli organlarga yetkazilishini yaxshilab, yon ta’sirlarni kamaytirishga yordam beradi.

Xulosa: Dori moddalarning kimyoviy sintezi zamonaviy farmatsevtika sohasida yangi va samarali dori vositalarini yaratishda asosiy vosita hisoblanadi. Molekulyar tuzilishdagi kichik o‘zgarishlar dori samaradorligi va xavfsizligini belgilaydi. Kelajakda yangi sintez usullari va nanotexnologiyalar yordamida yanada samarali, kam yon ta’sirli dori preparatlari ishlab chiqilishi kutilmoqda.

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AGE-RELATED HISTOLOGICAL CHANGES IN CARDIAC MUSCLE TISSUE.

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Abstract:

This article analyzes age-related histological and morphofunctional changes in cardiac muscle tissue. With the aging process, significant structural alterations occur in the myocardium. In particular, cardiomyocytes undergo compensatory hypertrophy, while in some cases a decrease in cell number and degeneration of myofibrils are observed. The accumulation of lipofuscin pigment in the cytoplasm is considered one of the characteristic histological markers of aging.

Additionally, an increase in interstitial connective tissue, excessive deposition of collagen fibers, and the progression of fibrotic processes reduce myocardial elasticity and contractile capacity. Microcirculatory alterations, including a decrease in capillary density and thickening of vascular walls, impair tissue trophism and oxygen supply. Age-related changes in mitochondrial number and function negatively affect cellular energy metabolism.

These histological modifications lead to a decline in the functional reserve of the heart and increase the risk of cardiovascular diseases, particularly heart failure, ischemic heart disease, and arrhythmias. The article discusses the morphological basis of these changes, their pathogenetic mechanisms, and their clinical significance based on current scientific evidence.

Keywords:

Cardiac muscle tissue, cardiomyocytes, aging process, histological changes, interstitial fibrosis, lipofuscin, microcirculation.

Introduction.

Aging is a natural biological process characterized by progressive structural and functional changes in tissues and organs. The cardiovascular system, particularly the heart, undergoes significant age-related modifications that influence its functional

capacity. As life expectancy increases worldwide, understanding the histological changes occurring in cardiac muscle tissue has become an important area of research in both basic and clinical medicine.

Cardiac muscle tissue (myocardium) is composed primarily of specialized muscle cells known as cardiomyocytes, supported by connective tissue elements, blood vessels, and the cardiac conduction system. With advancing age, both cellular and extracellular components of the myocardium experience structural remodeling. These alterations include cardiomyocyte hypertrophy, reduction in regenerative potential, accumulation of intracellular pigments such as lipofuscin, mitochondrial dysfunction, and increased deposition of collagen fibers leading to interstitial fibrosis.

Such histological changes may not only represent physiological aging but also contribute to the development of pathological conditions. Age-related remodeling of the myocardium reduces cardiac reserve, impairs diastolic and systolic function, and increases susceptibility to cardiovascular diseases. Therefore, studying the microscopic and ultrastructural changes in aging cardiac tissue is essential for understanding the mechanisms underlying age-associated cardiac dysfunction and for improving preventive and therapeutic strategies.

Main Part.

1. Structural Changes in Cardiomyocytes.

With advancing age, cardiomyocytes undergo significant structural remodeling. One of the most prominent features is compensatory hypertrophy, characterized by an increase in cell size rather than cell number, as adult cardiomyocytes have limited regenerative capacity. In parallel, a gradual loss of cardiomyocytes may occur due to apoptosis and necrosis, leading to a reduction in overall myocardial cellularity.

Ultrastructural examination reveals disorganization and partial loss of myofibrils, which directly affects contractile function. The accumulation of lipofuscin granules within the cytoplasm—often referred to as the “aging pigment”—is a hallmark of senescent cardiomyocytes. Lipofuscin accumulation reflects oxidative stress and incomplete lysosomal degradation processes.

Mitochondrial alterations are also prominent in aged myocardial tissue. These include changes in mitochondrial size, cristae disruption, and reduced oxidative phosphorylation efficiency. As a result, ATP production declines, impairing the energy supply required for effective cardiac contraction.

2. Changes in the Extracellular Matrix and Interstitial Tissue.

Aging is associated with significant remodeling of the extracellular matrix (ECM). There is an increased deposition of collagen fibers, particularly type I collagen,

leading to interstitial and perivascular fibrosis. This fibrotic transformation reduces myocardial elasticity and contributes to ventricular stiffness.

Fibrosis interferes with normal electrical impulse conduction and may predispose elderly individuals to arrhythmias. Moreover, excessive collagen accumulation disrupts the coordinated interaction between cardiomyocytes and the surrounding connective tissue, further compromising cardiac performance.

3. Microvascular and Circulatory Alterations.

Age-related histological changes also affect the coronary microcirculation. A decrease in capillary density and thickening of small vessel walls are frequently observed. Endothelial dysfunction develops progressively, impairing vasodilation and reducing oxygen delivery to myocardial tissue.

These microvascular alterations contribute to chronic mild ischemia, which exacerbates cardiomyocyte degeneration and fibrotic replacement. Impaired perfusion combined with reduced cellular energy metabolism further accelerates myocardial aging.

4. Functional Consequences of Histological Changes.

The cumulative effect of cellular degeneration, fibrosis, and microvascular impairment leads to a decline in cardiac functional reserve. Diastolic dysfunction is commonly observed in aging hearts due to increased ventricular stiffness. Systolic performance may remain relatively preserved in early aging but can decline with advanced structural remodeling.

Overall, these histological changes increase susceptibility to cardiovascular diseases, including heart failure, ischemic heart disease, and conduction abnormalities.

Understanding these mechanisms is crucial for developing preventive strategies aimed at reducing age-associated cardiac dysfunction.

Conclusion.

In conclusion, aging is accompanied by complex histological and structural remodeling of cardiac muscle tissue. Progressive changes in cardiomyocytes, including hypertrophy, reduction in cell number, myofibrillar disorganization, lipofuscin accumulation, and mitochondrial dysfunction, significantly affect myocardial integrity and performance. Simultaneously, increased collagen deposition and interstitial fibrosis alter the extracellular matrix, leading to reduced elasticity and ventricular stiffness.

Microvascular alterations, such as decreased capillary density and endothelial dysfunction, further compromise myocardial oxygen supply and metabolic balance.

The combined impact of these cellular and extracellular changes results in diminished cardiac functional reserve and increased vulnerability to cardiovascular diseases. Understanding the histological mechanisms underlying age-related myocardial remodeling is essential for early diagnosis, prevention, and the development of targeted therapeutic approaches aimed at preserving cardiac function in the aging population.

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FORMATION OF PROFESSIONAL COMPETENCES OF STUDENTS THROUGH THE TEACHING TECHNOLOGY OF THE METHODS OF EXECUTION OF ARCHITECTURAL CONSTRUCTION DRAWINGS

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Abstract

This article examines modern pedagogical technologies used in teaching architectural construction drawing methods. The research focuses on developing students’ competencies in computer graphics software, architectural model making, spatial representation methods, parallel projection techniques, and geometric analysis of spatial and planar forms. The study also highlights the importance of developing spatial imagination and engineering thinking skills through problem-solving tasks and research-based learning approaches. Modern educational technologies allow students to integrate theoretical knowledge with practical application, which increases their professional readiness in architecture and construction fields. In modern higher education institutions, architectural construction drawing is considered one of the fundamental subjects that forms the professional base of future engineers, architects, and designers. Teaching this subject using innovative technologies increases the efficiency of the learning process and improves students’ motivation toward professional activity.

Keywords

architectural graphics, engineering drawing, computer graphics, spatial thinking, projection methods, model making, educational technology

Introduction

The rapid development of digital technologies has significantly influenced architectural and construction education. Today, professional specialists must not only possess theoretical knowledge but also practical digital design skills. Architectural construction drawings are fundamental tools used to communicate design ideas, structural solutions, and technical specifications. Modern teaching technologies aim to integrate classical descriptive geometry methods with computer graphics tools.

This integration helps students better understand spatial relationships, projection principles, and geometric transformations. Teaching architectural drawing methods also contributes to forming analytical thinking, accuracy, and technical culture.

The introduction of digital learning platforms, virtual laboratories, and automated design tools has transformed traditional teaching methods. Students now have opportunities to perform complex design tasks using simulation tools and professional software.

The Role of Computer Graphics in Architectural Drawing Education

Computer graphics software plays an important role in modern architectural education. Students learn to create 2D drawings and 3D models, perform visualization, and analyze building structures. Using computer graphics helps students understand projection principles, object proportions, and spatial orientation.

Digital modeling allows students to test different design solutions and detect possible structural errors before construction. It also improves visualization skills, which are essential for presenting architectural projects to clients and engineers.

The use of Building Information Modeling (BIM) technologies further expands students' professional competencies by allowing them to integrate architectural, structural, and engineering systems into a single digital model.

Model Making in Architectural Education

Physical and digital model making helps students understand real structural relationships. Creating building models develops manual skills, spatial imagination, and constructive thinking. Students can analyze building proportions, structural stability, and design aesthetics through model making activities. Model making can be performed using cardboard, plastic, foam materials, or 3D printing technologies. Each method provides unique educational benefits and enhances students' understanding of construction processes. Digital model making using 3D modeling software and rapid prototyping technologies is becoming increasingly popular in architectural education.

Methods of Representing Spatial Forms on Plane Surfaces

Representing spatial objects on flat surfaces is one of the most important tasks in engineering graphics. Students learn orthographic projection, axonometric projection, and perspective drawing methods. These techniques allow accurate representation of three-dimensional objects on two-dimensional drawing planes. Parallel projection methods are especially important for technical drawings because they preserve object proportions and geometric accuracy. Students learn how to

interpret spatial objects using their flat projections. Understanding projection transformations helps students avoid design mistakes and improves drawing accuracy.

Geometric Analysis of Spatial Objects Using Projections

Projection drawings help analyze geometric properties such as distances, angles, and shape relationships. Students learn how to determine real dimensions of objects based on projection views. This is important for accurate construction documentation. Geometric analysis develops logical thinking and analytical skills. Students learn to solve engineering problems using graphical methods. Students also learn to analyze intersections of surfaces, cross-sections, and complex structural nodes using projection methods.

Positional and Metric Relationships Between Spatial and Planar Forms

Understanding relationships between objects in space is essential in architecture. Students learn how to determine object positions, intersections, and distances using projection drawings. Metric relationships include measurements of lengths, areas, and volumes. Positional relationships include parallelism, perpendicularity, and intersection of objects. These skills are essential for professional engineering activity. Teaching these relationships improves students' ability to read technical documentation correctly.

Development of Spatial Imagination and Engineering Thinking

Spatial imagination allows students to mentally visualize objects from different viewpoints. Engineering thinking helps solve technical problems logically and systematically. Teaching architectural drawing methods contributes to both skills development. Problem-based learning tasks help students develop analytical and research abilities. Practical exercises strengthen theoretical knowledge. Engineering thinking includes the ability to optimize design solutions and predict possible construction problems.

Relationship Between Image Plane and Three-Dimensional Space

The relationship between drawing plane and three-dimensional space is based on projection geometry laws. Understanding this relationship helps students correctly interpret drawings and create accurate technical documentation. Students learn how spatial objects are transformed into planar representations while preserving geometric properties. This knowledge is especially important for structural analysis and design planning.

Teaching Methods and Educational Technologies

Modern teaching technologies include interactive learning, digital simulations, project-based learning, and research-based education. These methods improve student engagement and learning efficiency. Using digital tools, virtual laboratories, and simulation software helps students better understand complex engineering concepts. Blended learning technologies combine traditional classroom teaching with online educational resources.

Research Methodology

The research is based on analysis of pedagogical literature, practical teaching experience, and student performance assessment. Experimental teaching methods were applied to evaluate the effectiveness of modern educational technologies. Statistical methods were used to analyze student performance before and after implementation of modern teaching technologies.

Results and Discussion

The results show that integration of computer graphics and classical drawing methods improves student learning outcomes. Students demonstrate better spatial understanding, drawing accuracy, and problem-solving skills. The use of project-based tasks increases student motivation and professional readiness. Students who used digital modeling tools demonstrated higher performance in design tasks compared to those using only traditional methods.

Conclusion

Teaching architectural construction drawing methods using modern educational technologies significantly improves students' professional competencies. The integration of digital tools, projection methods, and model making activities develops spatial imagination, engineering thinking, and practical design skills. These teaching approaches prepare students for modern architectural and construction industry requirements. Future research should focus on integrating artificial intelligence tools into architectural education.

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ZARPECHAK O'SIMLIGI VA XALQ TABOBATIDAGI O'RNI

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Annotatsiya . Ushbu maqolada Zarpechak o'simligining botanik xususiyatlari, tarqalishi, xalq tabobatidagi qo'llanilishi hamda shifobaxsh xususiyatlari yoritilgan. Shuningdek, uning ekalogik ahamiyati va inson salomatligiga foydali tomonlari haqida ma'lumot berilgan.

Kalit so'zlari. Zarpechak, dorivor o'simlik, xalq tabobati, shifobaxsh xususiyatlari, tabiat, o'simlikshunoslik, ekalogiya, dori-darmon.

Annotation. This article describes the botanical characteristics, distribution, application in folk medicine, and healing properties of the Zarpechak plant. In addition, information is provided about its ecological significance and beneficial effects on human health.

Keywords. Zarpechak, medicinal plant, folk medicine, healing properties, nature, botaniy, ecology, medicine.

Аннотация. В данной статье описаны ботанические особенности растения Зарпечак, его распространение, применение в народной медицине и целебные свойства. Кроме того, приведены сведения об экологическом значении и полезных сторонах для здоровья человека.

Ключевые слова. Зарпечак, лекарственное растение, народная медицина, целебные свойства, природа, ботаника, экология, лекарство.

Kirish. Tabiat inson hayoti uchun bebaho xazinadir. Uning tarkibida minglab dorivor o'simliklar mavjud bo'lib, ular qadimdan xalq tabobatida qo'llanib kelinadi. Shulardan biri - **Zarpechak (Cuscuta) o'simligi bo'lib, u o'zining noodatiy hayot tarzi, dorivor xususiyatlari va ekalogik bialn ajralib turadi. Bu o'simlikni turli joylarda turlicha nom bilan atashadi. Masalan mahaliy tilda chirmovuq deb nom olgan. Va boshqa joylarda ham har xil nomlari bilan atashadi.**

Zarpechak o'simligi yarim parazitlar turkumiga kiradi. U boshqa o'simliklarning tanasiga o'ralib oziqlanadi. Asosan sariq yoki och qizg'ish rangdagi ingichka ipga o'xshash poyalari bilan ajralib turadi. O'z ildiz tizimi bo'lmaganligi sababli Zarpechak yashash uchun boshqa o'simlikga bog'liq bo'ladi. Odatda u beda, sabzavot, g'alla va boshqa ko'plab ekinlarga yopishib o'sadi. Shunga qaramay, uning tarkinbida inson salomatligi uchun foydali bo'lgan qimmatli moddalar mavjud.

_ Qadimiy manbalarda Zarpechak turli kasalliklarni davolashda ishlatilgani qayd etilgan. Xalq tabobatida u ko'proq ichki a'zolari kasalliklari, shamollash, asab tizimi xastaliklari va yaralarni davolashda qo'llangan. Zamonaviy ilmiy tadqiqotlar esa uning tarkibida flavonoidlar, alkaloidlar, taninlar va boshqa biologic faol moddalar mavjudligini ko'rsatmoqda. Ushbu moddalarning yallig'lanishga qarshi, og'riq qoldiruvchi va aimmunitetni mustahkamlovchi xususiyatlari aniqlangan.

Zarpechak o'simligi faqatgina tabobat uchun emas, balki ekalogik nuqtayi nazaridan ham ahamiyatlidir. U o'sadigan joylarda o'simliklarning ushish jarayoniga ta'sir ko'rsatadi, ayrim hollarda esa agroekotizimining tabiiy muazanatini saqlashga xizmat qiladi. Shu boisdan uni ilmiy jihatdan chuqur urganish nafaqat tibbiyot, balki ekalogiya va qishloq xo'jaligi uchun ham dolzarbdir.

Xulosa. Zarpechak o'simligi tabiatda o'ziga xos xususiyatlarga ega bo'lib, nafaqat xalq tabobatida, balki zamonaviy tibbiyot va farmatsevtika uchun ham muhim ahamiyat kasb etadi. Uning tarkibidagi biologic faol moddalar inson salomatligini mustahkamlashda, turli kasalliklarni davolashda samarali vosita bo'lishi mumkin. Shu bilan birga, Zarpechakning ekalogik jihatdan ham o'ziga xos o'rni bor; u tabiiy muazanatni saqlashda, o'simliklarga hayotiy jarayonlarini boshqarishda muhim rol uynaydi.

Maqolada keltirilgan ma'lumotlar shuni ko'rsatadiki, Zarpechakning ilmiy jihatdan chuqurroq tadqiqot qilish, uning foydali tomonlarini kengroq o'rganish hamda amaliyotga tadbiiq etish kelajakda tibbiyot va qishloq xo'jaligi rivoji uchun katta imkoniyatlar yaratadi.

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DIABETGA QARSHI TABIIY YORDAMCHI- STEVIYA

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Annotatsiya. Ushbu maqolada steviya o'simligining kelib chiqishi, shakar o'rnida ishlatilishi va dorivor xususiyatlari haqida ma'lumot beriladi. Uning sog'liq uchun foydasi, ayniqsa diabet va semirishga qarshi qo'llanilishi keng yoritiladi.

Kalit so'zlari. Steviya, Shirin o't, tabiiy shakar, diabet, dorivor o'simlik, koloriyasiz shirinlik, steviyozid, sog'lom ovqatlanish.

Annotation: This article provides information about the stevia plant, its origin, use as a sugar substitute, and medicinal properties. It also explains in detail the health benefits of stevia, especially its wide use against diabetes and obesity.

Keywords: stevia, sweet herb, natural sugar, diabetes, medicinal plant, low-calorie sweetener, stevioside, healthy nutrition

Аннотация: В данной статье представлена информация о растении стевия, его происхождении, использовании в качестве заменителя сахара и лекарственных свойствах. Подробно рассматриваются полезные свойства стевии для здоровья, в частности её широкое применение против диабета и ожирения.

Ключевые слова: стевия, сладкая трава, натуральный сахар, диабет, лекарственное растение, некалорийный подсластитель, стевиозид, здоровое питание

Kirish. Steviya (mahalliy nomi — “shirin o't”) qadimdan shakar o'rnida qo'llaniladigan, bugungi kunda butun dunyoda keng tarqalgan noyob dorivor o'simlikdir. Asosan Janubiy Amerika hududlarida o'sadigan bu o'simlik o'zining bargidagi tabiiy shirinligi sababli qadimiy xalqlardan boshlab insoniyat hayotida muhim o'rin tutgan. Steviyaning shirinligi oddiy shakardan bir necha barobar yuqori bo'lsa-da, uning kaloriya miqdori deyarli nolga teng. Shuning uchun ham u nafaqat shakar o'rnini bosuvchi tabiiy vosita, balki sog'lom ovqatlanishning ajralmas qismi sifatida qadrlanadi.

Steviya bargidan olinadigan steviozid moddasi qandli diabet bilan og'rigan bemorlar uchun xavfsiz bo'lib, qon shakarini ko'tarib yubormaydi. Shu bilan birga, ortiqcha vazndan aziyat chekayotgan insonlar uchun ham samarali bo'lib, semirishning oldini olishda katta yordam beradi. Ilmiy tadqiqotlar steviya yurak-qon tomir tizimiga foydali ta'sir ko'rsatishini, moddalar almashinuvini yaxshilashini va organizmni umumiy mustahkamlashini isbotlagan.

Bugungi kunda steviya ko‘plab mamlakatlarda shakar o‘rnida ishlatiladigan eng mashhur tabiiy shirinliklardan biri bo‘lib, sog‘lom ovqatlanishni targ‘ib etishda, diabet va semirishning oldini olishda, shuningdek, dorivor vosita sifatida keng qo‘llanmoqda. Steviya o‘simligining yana bir muhim jihati shundaki, u nafaqat shirinlik manbai, balki qimmatli biologik faol moddalar ombori hisoblanadi. Barglari tarkibida glikozidlar, flavonoidlar, efir moylari va turli vitaminlar mavjud bo‘lib, ular organizmda antioksidant, yallig‘lanishga qarshi va immunitetni mustahkamlovchi ta‘sir ko‘rsatadi. Shu sababli steviya nafaqat oziq-ovqat sanoatida, balki farmatsevtika sohasida ham keng o‘rganilmoqda. Uning asosida turli dorivor preparatlar, parhez qo‘shimchalari va sog‘lomlashtiruvchi ichimliklar tayyorlanmoqda.

So‘nggi yillarda olib borilgan ilmiy izlanishlar steviya moddalari qonda xolesterin miqdorini kamaytirishi, jigar faoliyatini yaxshilashi va oshqozon-ichak tizimining me‘yoriy ishlashini qo‘llab-quvvatlashini ko‘rsatmoqda. Ayniqsa, steviya metabolism buzilishlari va gipertoniya bilan og‘rigan bemorlar uchun foydali ekani ta‘kidlanadi. Bu esa steviya qo‘llanish doirasini yanada kengaytirib, uni faqat shakar o‘rnini bosuvchi vosita emas, balki profilaktik va davolovchi o‘simlik sifatida ham qadrlanishiga olib kelmoqda.

Shu bilan birga, steviya qishloq xo‘jaligida ham istiqbolli yo‘nalish hisoblanadi. U ko‘p parvarish talab qilmaydi, turli tuproq sharoitida ham o‘sishi mumkin. Natijada kichik plantatsiyalardan boshlab yirik agroklastarlarga qadar keng miqyosda yetishtirish imkonini beradi. Bunday afzalliklari tufayli ko‘plab davlatlarda steviya eksportbop mahsulot sifatida qadrlanib, iqtisodiy foyda keltirmoqda.

Bugungi kunda steviya xalqaro sog‘liqni saqlash tashkilotlari tomonidan xavfsiz shakar o‘rnini bosuvchi sifatida tavsiya etilgan bo‘lib, u ko‘plab mamlakatlarda kundalik iste‘molga keng joriy qilinmoqda. Ayniqsa, parhez mahsulotlari, bolalar ovqatlari, diabetik mahsulotlar va sportchilar uchun maxsus ichimliklar ishlab chiqarishda steviya asosiy komponentlardan biri sifatida alohida o‘rin tutmoqda.

Xulosa. Steviya o‘simligi haqida olib borilgan tadqiqotlar shuni ko‘rsatadiki, bu o‘simlik nafaqat tabiiy shirinlik manbai, balki inson salomatligini asrashda katta ahamiyat kasb etadi. Bugungi kunda sog‘lom ovqatlanish, ekologik toza mahsulotlar iste‘moli va sun‘iy qo‘shimchalardan voz kechish tobora dolzarb bo‘lib borayotgan bir paytda, steviya eng maqbul yechimlardan biri sifatida tan olinmoqda.

Xususan, steviya asosida tayyorlangan mahsulotlarning diabet kasalligini nazorat qilishda, semirishning oldini olishda va yurak-qon tomir tizimini qo‘llab-quvvatlashda samarali ekanligi uning amaliy ahamiyatini yanada oshiradi. Bundan tashqari, iqtisodiy

jihtadan ham steviya katta imkoniyatlarga ega bo'lib, uni keng miqyosda yetishtirish mamlakatlar oziq-ovqat xavfsizligini ta'minlashga xizmat qiladi.

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Annotatsiya

Ushbu maqola yurak-qon tomir tizimining gistologik, sitologik va embriologik rivojlanishiga oid ilmiy ma'lumotlarni taqdim etadi. Yurak va qon tomirlarining tuzilishi, ularning hujayra tarkibi, embryonallik davrida rivojlanishi, shuningdek, yurak-qon tomir tizimining normal va patologik jarayonlarda qanday o'zgarishlar sodir bo'lishi batafsil tahlil qilinadi. Maqolada yuqori sifatli ilmiy adabiyotlardan foydalanilgan va zamonaviy tadqiqotlar asosida yangi bilimlar keltirilgan.

Kalit so'zlar: yurak, qon tomirlari, gistologiya, sitologiya, embriologiya, rivojlanish, patofiziologiya.

Аннотация: В данной статье представлена информация о гистологическом, цитологическом и эмбриологическом развитии сердечно-сосудистой системы. Рассматриваются структура сердца и сосудов, их клеточный состав, а также изменения, происходящие в ходе эмбрионального развития. В статье используются современные научные данные и последние исследования, что позволяет выделить важные аспекты в изучении нормальных и патологических процессов в сердечно-сосудистой системе.

Ключевые слова: сердце, кровеносные сосуды, гистология, цитология, эмбриология, развитие, патофизиология.

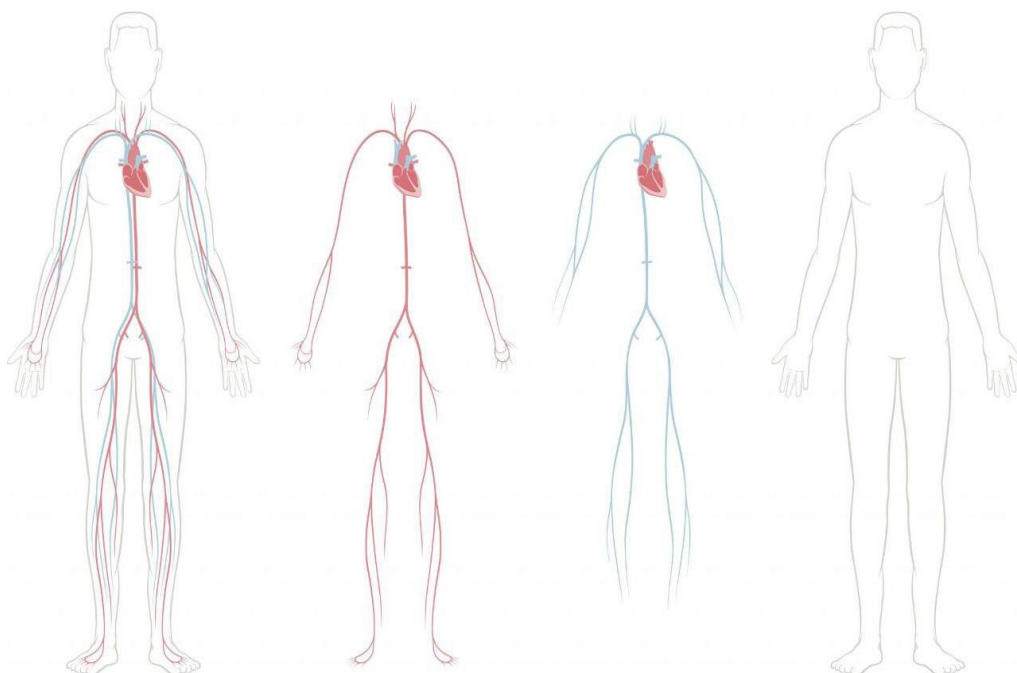
Annotation: This article provides scientific information on the histological, cytological, and embryological development of the cardiovascular system. It discusses the structure of the heart and blood vessels, their cellular composition, as well as the changes that occur during embryonic development. The article incorporates modern scientific data and recent research, highlighting key aspects in understanding both normal and pathological processes within the cardiovascular system.

Keywords: heart, blood vessels, histology, cytology, embryology, development, pathophysiology.

Mavzuning hozirgi kundagi dolzarbligi

Yurak-qon tomir tizimi inson organizmining asosiy hayotiy tizimi bo'lib, uning rivojlanishi, tuzilishi va patologiyasi so'nggi yillarda ilmiy tadqiqotlarning markazida turibdi. Gistologiya sitologiya va embriologiya, sohalaridagi yangi yondashuvlar, ayniqsa, stem hujayralari va sun'iy embriologiya kabi innovatsion texnologiyalar yurakning rivojlanish mexanizmlarini chuqurroq tushunishga imkon yaratmoqda.

Masalan, so'nggi yillarda inson induktsiyalangan pluripotent stem hujayralaridan (hiPSC) olingan kardiomiotsitlar yordamida sun'iy embriologiya modellarini yaratish orqali yurakning rivojlanish jarayonlari va kasalliklarning mexanizmlari o'rganilmoqda. Bu yondashuvlar yurak kasalliklarini davolashda yangi imkoniyatlar yaratmoqda, masalan, miokard infarkti natijasida yuzaga kelgan fibrozni tiklashda hiPSC asosidagi patchlar muvaffaqiyatli qo'llanilmoqda .



Embriologik tadqiqotlar yurak-qon tomir tizimining rivojlanishida muhim rol o'ynaydigan molekulyar signal yo'llarini aniqlashga yordam bermoqda. Masalan, Notch signal yo'li endokardium va miokard o'rtasidagi hujayra-hujayra muloqotini tartibga solishda, shuningdek, yurak valflarining rivojlanishida muhim ahamiyatga ega

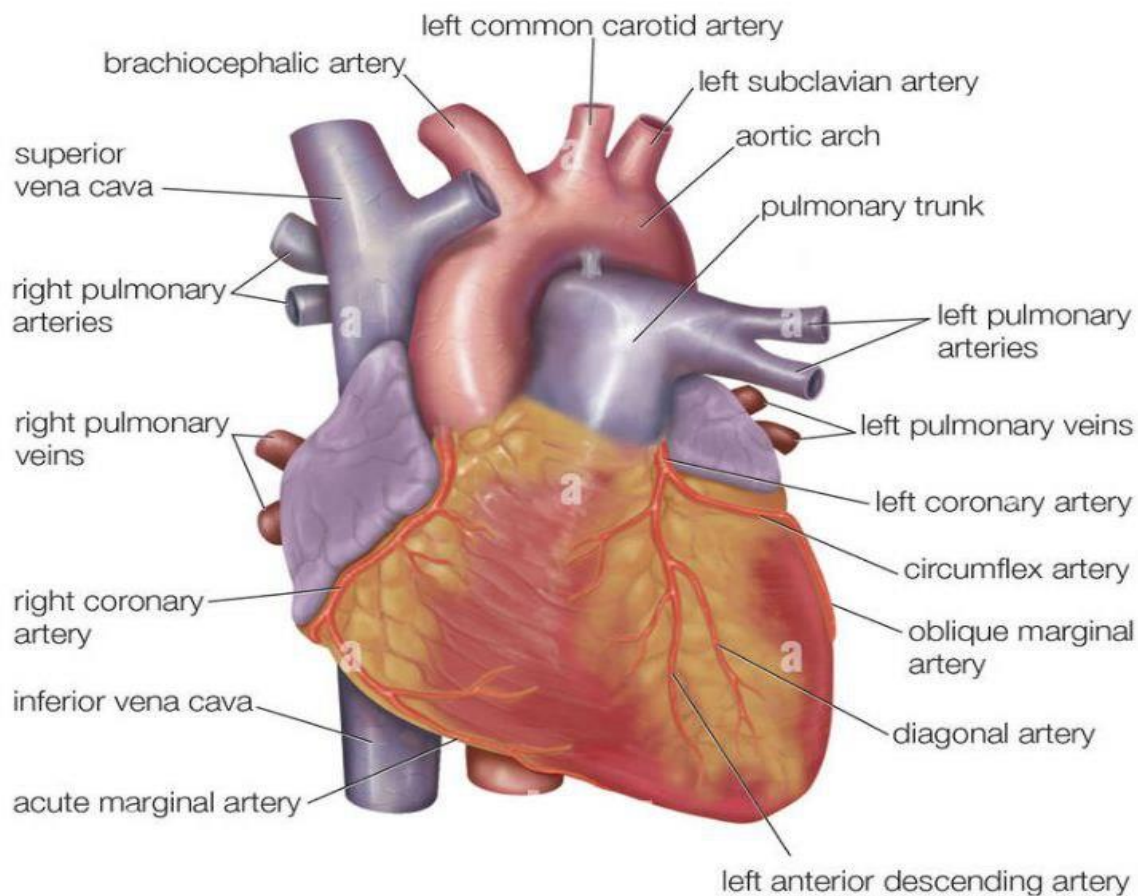
Shuningdek, kardiogenezning molekulyar mexanizmlarini o'rganish orqali tug'ma yurak nuqsonlarining rivojlanishiga olib keladigan omillar aniqlanmoqda. Bu tadqiqotlar, ayniqsa, homilalik davrda yuzaga keladigan yurak nuqsonlarini tushunishda muhim ahamiyatga ega.

Bundan tashqari, yangi texnologiyalar yordamida yurakning gistologik va sitologik tuzilishini o'rganish, uning kasalliklaridagi o'zgarishlarni aniqlashda muhim ahamiyat kasb etmoqda. Bu yondashuvlar yurak kasalliklarini erta bosqichda aniqlash va davolashda samarali usullarni ishlab chiqishga yordam bermoqda.

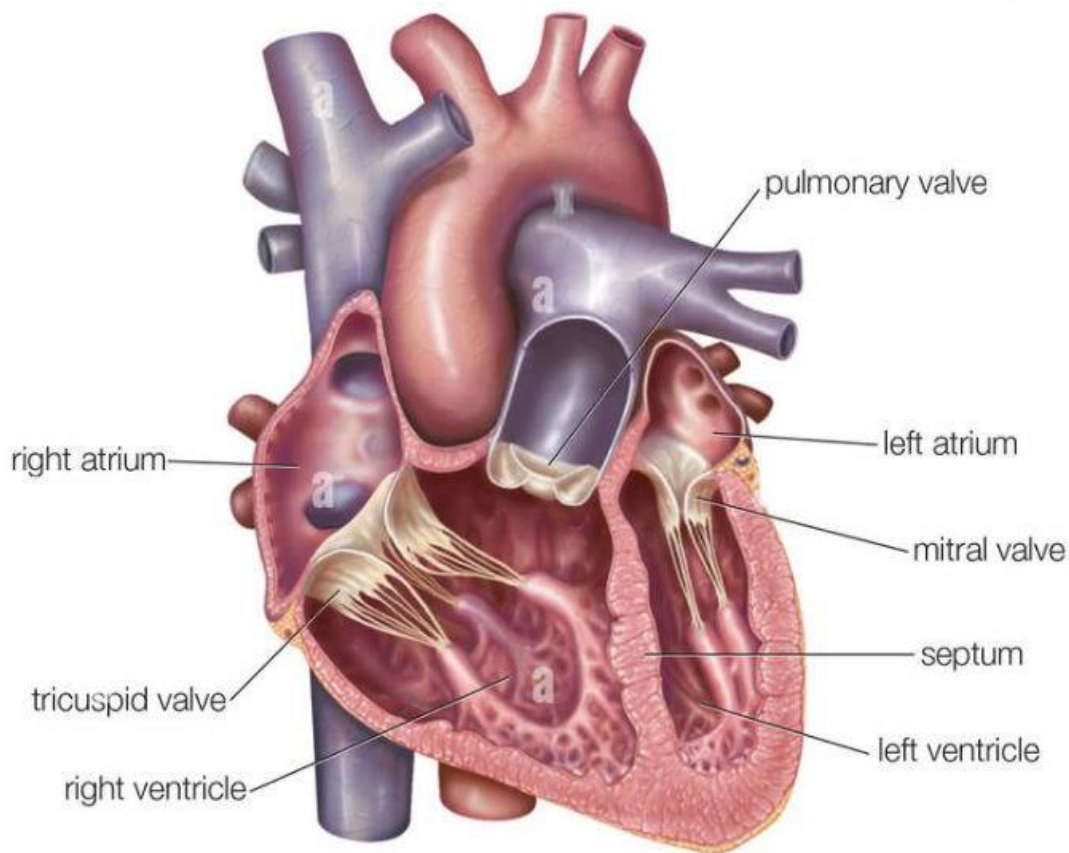
Shu bilan birga, yurak-qon tomir tizimi bo'yicha ilmiy tadqiqotlar nafaqat tibbiyot sohasida, balki biotexnologiya, genetik muhandislik va regenerativ tibbiyot kabi sohalarda ham yangi imkoniyatlar yaratmoqda. Bu esa mavzuning dolzarbligini yanada oshiradi.

Kirish

Yurak-qon tomir tizimi inson organizmining eng muhim tizimlaridan biri bo'lib, uning asosiy vazifasi organizmga kislorod va ozuqa moddalarini yetkazish, shuningdek, metabolik chiqindilarni olib chiqishdir. Ushbu tizimning to'g'ri ishlashi organizmning barcha organlari va tizimlarining samarali faoliyatini ta'minlashda muhim rol o'ynaydi. Yurak va qon tomirlarining tuzilishi va funksiyasi turli ilmiy sohalarda, xususan gistologiya, sitologiya va embriologiya sohalarida keng o'rganilmoqda.



Gistologiya bo'yicha, yurak va qon tomirlarining hujayra tarkibi, ularning tuzilishi va organizmdagi vazifalari batafsil o'rganilmoqda. Yurakning tuzilishi, ayniqsa, miokardning hujayra turlari, yurak mushaklari va qon tomirlarining endoteliy hujayralari o'rtasidagi o'zaro munosabatlar inson organizmidagi hayotiy muvozanatni saqlashda muhim ahamiyatga ega. Yurakni tashkil etuvchi hujayralar, shu jumladan kardiomiotsitlar va endoteliy hujayralari, o'zining yuqori darajadagi differensiyasi va funksional faolligi bilan ajralib turadi.



Sitologiya sohasida, yurak va qon tomirlaridagi hujayralarning fiziologik va patologik jarayonlardagi o'zgarishlari o'rganiladi. Yangi metodlar yordamida, xususan, mikroRNA va gen ekspressiyasi kabi hujayra darajasidagi o'zgarishlar, yurak kasalliklari va boshqa patologik holatlar haqida ko'plab yangi bilimlarga ega bo'lish mumkin. Sitologik tadqiqotlar nafaqat yurak kasalliklarini aniqlashda, balki ularni davolashning yangi yo'llarini izlashda ham katta yordam bermoqda.

Embriologiya nuqtai nazaridan, yurak-qon tomir tizimi homiladorlik davrida rivojlanadi. Embriologik jarayonlar davomida yurak va qon tomirlarining shakllanishi va rivojlanishi yuqori darajada tartibga solingan. Yurak va qon tomirlarining embryonal rivojlanishi, ularning to'g'ri tashkil topishi va rivojlanishi uchun bir qator genetik va epigenetik omillarni o'z ichiga oladi. Tushuncha sifatida, yurak nuqsonlarining ko'plab tug'ma shakllari embriologik jarayonlardagi xatoliklar bilan bog'liq.

So'nggi yillarda, embriologiya va regenerativ tibbiyot sohasidagi yangi yondashuvlar, yurak va qon tomir tizimining kasalliklarini davolashda yangi imkoniyatlarni ochmoqda. Masalan, hujayra terapiyasi, stem hujayralari asosidagi texnologiyalar va

mikroskopik tahlillar orqali yurak kasalliklarini davolashda muvaffaqiyatli natijalar kuzatilmoqda.

Asosiy qisim

Yurak-qon tomir tizimi inson organizmining markaziy tizimlaridan biri bo'lib, uning to'g'ri ishlashi hayot uchun zarurdir. Ushbu tizimning anatomik va fiziologik tuzilishi, gistologik va sitologik xususiyatlari, shuningdek, embrional rivojlanishdagi o'zgarishlar insonning sog'lom hayot kechirishini ta'minlashda muhim o'rin tutadi. Quyida yurak-qon tomir tizimi, uning tuzilishi, rivojlanishi va kasalliklari bo'yicha ilmiy asoslangan ma'lumotlar keltirilgan.

1. Yurakning Gistologik Tuzilishi

Yurak, organizmdagi eng katta mushak bo'lib, u uch qatlamdan tashkil topgan: endokardiyum, miokardiyum va epikardiyum. Endokardiyum yurakning ichki qatlamini tashkil etib, qon tomirlarining endoteliy hujayralarini o'z ichiga oladi. Miokardiyum esa yurakning mushak qatlamidir, u kardiomiotsitlar deb ataluvchi maxsus hujayralardan tashkil topgan. Bu hujayralar yuqori darajada differensiyalashgan bo'lib, yurakning qisqarish faoliyatini ta'minlaydi. Epikardiyum esa yurakning tashqi qavatidir, u yurakni himoya qilib, unga elastiklik beradi.

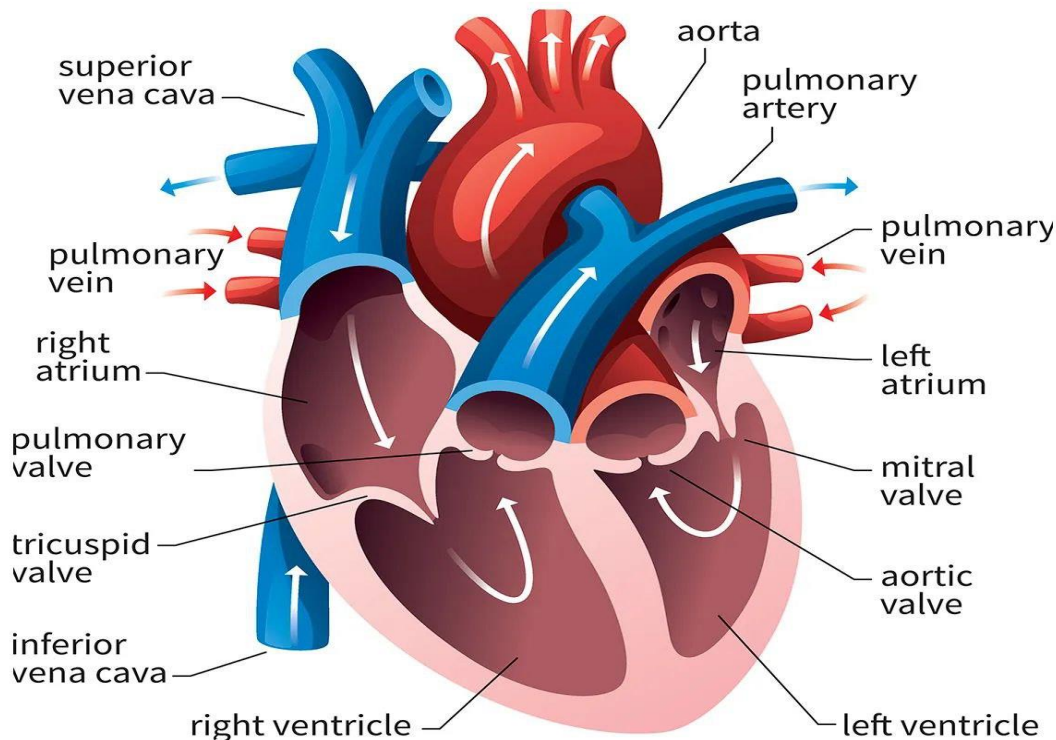
gistologik tadqiqotlar, yurak mushaklari va qon tomirlarining strukturasini o'rganish orqali, ko'plab yurak kasalliklarining rivojlanish mexanizmlarini aniqlashga imkon beradi. Masalan, miokard infarkti yoki kardiomiopatiya kabi kasalliklarda hujayralarning o'zgarishi va ularning rekonstruksiya jarayonlarini kuzatish mumkin.

2. Yurak va Qon Tomirlarining Sitologiyasi

Yurak va qon tomirlarining normal faoliyati ularni tashkil etuvchi hujayralarning to'g'ri ishlashiga bog'liqdir. Sitologik tadqiqotlar yordamida, yurakdagi kardiomiotsitlar va qon tomirlaridagi endoteliy hujayralarining o'zgarishlari tahlil qilinadi. Hujayralar darajasida sodir bo'ladigan o'zgarishlar yurak-qon tomir tizimining patologik holatlarini aniqlashda katta ahamiyatga ega.

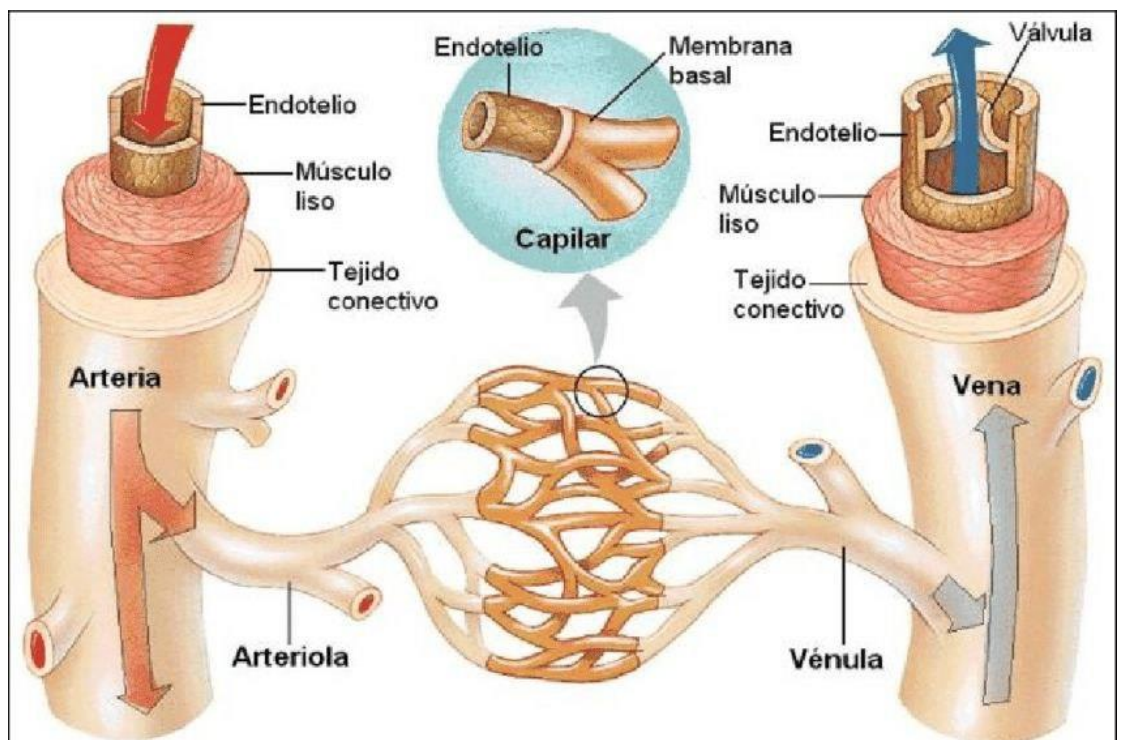
Yurak kasalliklarining, jumladan, yurak etishmovchiligi va hipertoniya kabi kasalliklarning rivojlanishida, hujayralarning stressga javobi, yallig'lanish jarayonlari

va oksidlanish stressining o'rni juda katta. Sitologik tahlillar orqali, bu jarayonlarni aniqlash va ular bilan kurashishning samarali usullari ishlab chiqilmoqda.



3. Yurak-Qon Tomir Tizimining Embriologik Rivojlanishi

Yurak va qon
tomirlarining
rivojlanishi
homiladorlik
davrida



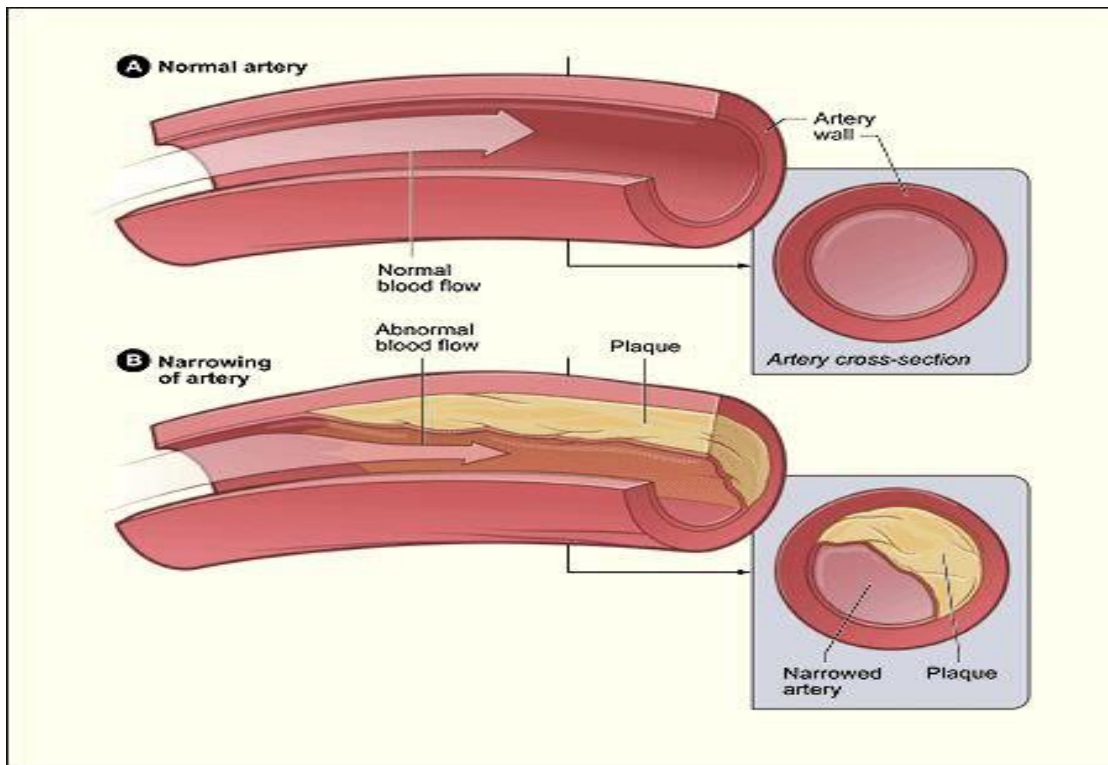
boshlanadi va juda murakkab jarayonni tashkil etadi. Embriologiya sohasida olib

borilgan tadqiqotlar yurak-qon tomir tizimining boshlang'ich rivojlanishiga va uning morfogenezi jarayonlariga yondashuvni chuqurroq tushunishga yordam beradi.

Homilalik rivojlanishning dastlabki bosqichlarida, yurak va qon tomirlarining shakllanishi uchun bir qator genetik va epigenetik omillar muhim rol o'ynaydi. Embriologik tadqiqotlar orqali yurak nuqsonlari, jumladan, tug'ma yurak xastaliklari va ularning rivojlanish mexanizmlari o'rganilmoqda. Yangi avlod diagnostika va davolash usullari shu bilimlarga asoslanadi.

4. Yurak-Qon Tomir Tizimining Kasalliklari

Yurak-qon tomir tizimining kasalliklari inson hayotini xavf ostiga qo'yadigan eng keng tarqalgan patologik holatlardir. Ular orasida yurak etishmovchiligi, miokard infarkti, aritmiyalar, arteriyal hipertoniya va boshqa kasalliklar mavjud. Ushbu kasalliklar asosan yurak va qon tomirlarining strukturaviy o'zgarishlari, hujayralar darajasidagi patologik jarayonlar va genetik omillarning ta'siri natijasida rivojlanadi. Gistologik va sitologik tahlillar yordamida yurak kasalliklarining rivojlanish mexanizmlarini aniqlashda samarali natijalarga erishilgan. Masalan, miokard infarkti paytida, miokardiyal hujayralarning nekrozi va fibrozning rivojlanishi kuzatiladi. Shuningdek, yurak etishmovchiligi va hipertoniya kabi kasalliklarda qon tomirlarining o'zgarishlari, hujayralarning yallig'lanishi va oksidlanish stressi kabi jarayonlar boshqariladi.



Tadqiqot Maqsadi

Ushbu tadqiqotning maqsadi yurak-qon tomir tizimining gistologik, sitologik va embriologik rivojlanishini chuqur o‘rganish, shuningdek, bu tizimda yuzaga keladigan kasalliklarning mexanizmlarini aniqlashdir. Tadqiqotda yurak va qon tomirlarining tuzilishi, ularning hujayra tarkibi, rivojlanish jarayonlari va patologik holatlari tahlil qilinadi. Bunda, gistologik, sitologik va embriologik metodlardan foydalangan holda, normal va patologik jarayonlardagi o‘zgarishlar o‘rganiladi.

Tadqiqotning asosiy maqsadlari quyidagilardan iborat:

Yurak va qon tomirlarining gistologik tuzilishini tahlil qilish, ularning hujayra tarkibini o‘rganish.

Yurak va qon tomirlaridagi hujayralar darajasidagi o‘zgarishlarni (yallig‘lanish, oksidlanish stressi, hujayra stressi) aniqlash.

Homilalik davrda yurak-qon tomir tizimining embriologik rivojlanishini o‘rganish va tug‘ma yurak nuqsonlarining rivojlanish mexanizmlarini tahlil qilish.

Yurak kasalliklari, jumladan, miokard infarkti, hipertoniya va yurak etishmovchiligining rivojlanishida qatnashuvchi molekulyar mexanizmlar va hujayra o'zgarishlarini aniqlash.

Hujayra terapiyasi, stem hujayralari asosidagi texnologiyalar va boshqa innovatsion davolash usullari yordamida yurak kasalliklarini davolashning samaradorligini baholash.

Amaliy Ishlar

Tadqiqotning amaliy yo'nalishlari quyidagilardan iborat:

Gistologik Tahlillar:

Yurak va qon tomirlaridan olingan biopsiyalarni mikroskopik tahlil qilish. Bu, ularning tuzilishini, hujayra tarkibini, va kasalliklar bilan bog'liq o'zgarishlarni aniqlashda yordam beradi.

Miokard va qon tomirlarining hujayra tuzilishini o'rganish uchun immunohistokimiyaviy bo'yoqlar va elektrofiziologik tahlillarni qo'llash.

Sitologik Tahlillar:

Kardiomiotsitlar va qon tomirlarining endoteliy hujayralarini mikroskopik va molekulyar darajada tahlil qilish. Yallig'lanish va oksidlanish stressining ta'sirini o'rganish.

Yurak kasalliklarida sodir bo'ladigan hujayra darajasidagi o'zgarishlarni aniqlash (hujayra apoptosi, nekrozi, fibroz va boshqalar).

Embriologik Tadqiqotlar:

Homilalik davrda yurak va qon tomirlarining rivojlanishini o'rganish. Xususan, yurakning tuzilishi va rivojlanishidagi molekulyar signal yo'llarini o'rganish (Notch, Wnt, Shh signal yo'llari).

Tug'ma yurak nuqsonlarining rivojlanishini aniqlash va bu jarayonlardagi epigenetik omillarni o'rganish.

Molekulyar Genetik Tadqiqotlar:

Yurak kasalliklariga sabab bo'luvchi genetik mutatsiyalarni aniqlash va ularni davolashdagi potentsial yondashuvlarni tahlil qilish.

Stem hujayra terapiyasini qo'llash va miokard infarkti, yurak etishmovchiligi kabi kasalliklar uchun yangi davolash usullarini tadqiq qilish.

Innovatsion Davolash Usullarini Tadqiq Etish:

Hujayra terapiyasi va stem hujayralar yordamida yurak kasalliklarini davolashning samaradorligini tekshirish.

Mikroskopik tahlillar va molekulyar biologiya yordamida yurak kasalliklarida qo'llaniladigan innovatsion usullarni o'rganish.

Tadqiqot Natijalari

Tadqiqotning yakuniy maqsadi – yurak-qon tomir tizimining gistologik, sitologik va embriologik jihatlarini chuqurroq tushunish va bu bilimlarni yurak kasalliklarini davolashning yangi, samarali usullarini ishlab chiqishda qo'llashdir.

Materiallar va Usullar

Ushbu tadqiqotda yurak-qon tomir tizimining gistologik, sitologik va embriologik xususiyatlarini o'rganish uchun turli xil metodlar va materiallardan foydalaniladi. Tadqiqotda qo'llaniladigan usullarni aniq va samarali natijalarni olish maqsadida tanlanadi. Quyida tadqiqotda ishlatiladigan materiallar va usullar keltirilgan.

Materiallar

Tadqiqotda foydalaniladigan materiallar quyidagilardan iborat:

Yurak va qon tomirlaridan olingan biopsiyalar: Tadqiqotda inson va hayvon organizmidan olingan yurak va qon tomirlaridan olingan biopsiyalar ishlatiladi. Bu materiallar gistologik, sitologik va molekulyar tahlillar uchun tayyorlanadi.

Homilalik rivojlanish bosqichidagi organizmlar: Homilador hayvonlardan olingan embryonlar va homilalar yurak-qon tomir tizimining rivojlanishini o'rganish uchun ishlatiladi.

Hujayra madaniyatlari: Kardiomiotsitlar, endoteliy hujayralari, fibroblastlar kabi yurak va qon tomirlariga tegishli hujayra madaniyatlari laboratoriyada o'rganiladi.

Kimyoviy reagentlar: gistologik bo'yash, immunohistokimiyaviy reaksiyalar va molekulyar biologiya usullarida foydalaniladigan reagentlar (bo'yoqlar, antikorlar, PCR reagentlari, enzima reaksiyalari uchun modifikatorlar).

Tajriba guruhleri: Tadqiqotda ma'lum bir davrda hayvonlar (masalan, siçanlar) yoki inson sub'ektlari, ularning kasallik holatlari bilan to'liq tahlil qilingan guruhlar ishlatiladi.

Usullar

Tadqiqotda qo'llaniladigan asosiy usullar quyidagilardan iborat: **Gistologik Usullar**

To'qima tayyorlash: Yurak va qon tomirlaridan olingan namunalar formalin bilan fiksatsiya qilinadi va parafinli bloklar tayyorlanadi. Bu bloklar mikrotom yordamida juda ingichka bo'laklarga kesiladi.

Bo'yash usullari: gistologik tahlil uchun turli bo'yash usullari qo'llaniladi. Masalan:

Gematoksilin-eozin (H&E) bo'yash: To'qimalarning umumiy tuzilishini ko'rsatadi.

Masson's Trichrome bo'yash: Kolagen va mushak tolalarini ajratish uchun ishlatiladi.

Immunohistokimiyaviy bo'yash: Maxsus antikorlar yordamida ma'lum proteinlar va hujayra markerlarini aniqlashda qo'llaniladi.

Sitologik Usullar

Preparatlari tayyorlash: Hujayra madaniyatlaridan olingan hujayralar mikroskopik tahlil uchun tayyorlanadi. Cytospin yordamida hujayralar to'planadi va mikroskop orqali tahlil qilinadi.

Mikroskopiya: Hujayralarda yallig'lanish, oksidlanish stressi va apoptotik jarayonlar kabi hujayra o'zgarishlarini aniqlash uchun ishlatiladi. Hujayralar tegishli fluorescent markazlar bilan bo'yoqlanadi.

Hujayra populyatsiyalarini tahlil qilishda, xususan, kardiomiotsitlar va endoteliy hujayralarining o'zgarishlarini o'rganishda qo'llaniladi.

Embriologik Usullar

Embriologik tadqiqotlar uchun hayvonlarning (masalan, sichqoncha) embryonlari o'rganiladi. Ushbu embryonlar in vitro sharoitda rivojlanib, yurak va qon tomirlarining tuzilishi va morfogenezi tahlil qilinadi.

Embrional rivojlanish bosqichlarida yurak va qon tomirlarining rivojlanishi bilan bog'liq genlarning ekspressiyasini o'rganish uchun qo'llaniladi. Bu usul orqali genetik materialning aniq joylashuvi va ekspressiyasi aniqlanadi.

Molekulyar Genetik Usullar

Yurak kasalliklari bilan bog'liq bo'lgan genetik mutatsiyalarni aniqlash uchun PCR usuli qo'llaniladi. PCR orqali yurak va qon tomir tizimida sodir bo'ladigan genetik o'zgarishlar va mutatsiyalar aniqlanadi.

Yurak kasalliklaridagi molekulyar o'zgarishlarni o'rganish uchun mRNA ning ifodalash darajasi tahlil qilinadi. Ushbu usul orqali kardiomiotsitlar va endoteliy hujayralarining faoliyatini va kasalliklar bilan bog'liq gen ekspressiyasini aniqlash mumkin.

Yurak-qon tomir tizimida yuzaga keladigan molekulyar o'zgarishlarni o'rganish uchun oqsillarni ajratish va ularning ekspressiyasini aniqlashda foydalaniladi.

Statistik Tahlil Usullari

Tadqiqot natijalarini tahlil qilishda statistik usullar, jumladan, t-test, ANOVA va regressiya tahlillari qo'llaniladi. Bu usullar yordamida turli guruhlar orasidagi farqlar va o'zgarishlarning ahamiyati aniqlanadi.

Xulosa

Yurak-qon tomir tizimi inson organizmining hayotiy faoliyatida muhim o'rin tutadi. Ushbu tizimning normal rivojlanishi va funktsiyalari, shuningdek, turli kasalliklarning yuzaga kelishi chuqur o'rganishni talab qiladi. Tadqiqot davomida yurak va qon

tomirlarining gistologik, sitologik va embriologik tuzilishi, shuningdek, patologik o'zgarishlarning mexanizmlari batafsil tahlil qilindi.

Tadqiqot natijalari quyidagi xulosalarga olib keldi:

Yurak-qon tomir tizimi tuzilishining murakkabligi: Yurak va qon tomirlarining normal rivojlanishida turli xil hujayralar va molekulyar mexanizmlar qatnashadi. Embriologik tadqiqotlar, shu jumladan, homilalik rivojlanish bosqichlarida yurak va qon tomirlarining shakllanish jarayonlarini yanada chuqurroq tushunishga imkon berdi.

Patologik o'zgarishlar: Yurak-qon tomir tizimidagi patologik holatlar, masalan, miokard infarkti, yurak etishmovchiligi va gipertoniya, hujayra darajasidagi o'zgarishlar bilan bog'liq. gistologik va sitologik tahlillar orqali bu o'zgarishlarning yallig'lanish, oksidlanish stressi va hujayra apoptosi kabi mexanizmlar orqali yuzaga kelishi aniqlandi.

Molekulyar mexanizmlar: Yurak kasalliklari rivojlanishida genetik omillar va molekulyar mexanizmlar katta rol o'ynaydi. PCR va RNA tahlil qilish orqali yurak va qon tomir tizimida sodir bo'ladigan molekulyar o'zgarishlar va gen ekspressiyasi o'rganildi. Bu bilimlar yangi davolash usullarini ishlab chiqishda yordam beradi.

Innovatsion davolash yondashuvlari: Hujayra terapiyasi, stem hujayralari va boshqa innovatsion davolash usullari yurak kasalliklarini davolashda yangi imkoniyatlar yaratadi. Tadqiqot davomida bunday usullarning samaradorligi va potentsiali baholandi.

Tadqiqotning amaliy ahamiyati: Tadqiqotda keltirilgan ma'lumotlar, ayniqsa yurak-qon tomir tizimi kasalliklarini erta aniqlash, profilaktika va samarali davolashda qo'llanilishi mumkin. Ushbu bilimlar, tibbiy amaliyotda, ayniqsa yurak kasalliklarini davolashda yangi strategiyalarni ishlab chiqishda muhim rol o'ynaydi.

Umuman olganda, tadqiqot yurak-qon tomir tizimi va uning kasalliklari haqidagi ilmiy bilimlarni kengaytirish, shuningdek, amaliy tibbiyotda samarali davolash usullarini ishlab chiqish uchun muhim ilmiy asoslarni taqdim etdi. Yangi usullarni ishlab chiqish, texnologiyalarni yanada rivojlantirish va ilg'or ilmiy tadqiqotlar yordamida yurak kasalliklarini davolashda katta yutuqlarga erishish mumkin.

Tadqiqot davomida olib borilgan ishlar yurak-qon tomir tizimi bilan bogʻliq kasalliklarning oldini olish va davolashda yangiliklar kiritishga imkoniyat yaratadi, bu esa umumiy sogʻliqni yaxshilashga katta hissa qoʻshadi.

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THE ROLE AND SIGNIFICANCE OF ART IN THE PSYCHE OF MILITARY PERSONNEL

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Annotation: this study explores the profound impact of art on the psychological well-being of military personnel, emphasizing how various artistic expressions such as visual arts, music, and theater can mitigate symptoms of post-traumatic stress disorder (PTSD), anxiety, and depression prevalent among service members. Drawing from recent empirical evidence between 2021 and 2025, the research highlights art's role in fostering emotional regulation, enhancing resilience, and promoting social integration, thereby underscoring its therapeutic value in military mental health programs. Ultimately, the findings advocate for the integration of art-based interventions into standard military psychological support systems to improve overall mentality and operational effectiveness.

Keywords: Art therapy, military personnel, psychological well-being, PTSD symptoms, emotional regulation, resilience building, social integration, therapeutic interventions, mental health support, veteran rehabilitation, creative expression.

INTRODUCTION

Military service often exposes individuals to high-stress environments that can profoundly affect their mental health, leading to conditions such as post-traumatic stress disorder, anxiety, and depression which require comprehensive intervention strategies. The integration of art into psychological care for these personnel has emerged as a promising approach, offering non-verbal outlets for expressing complex emotions that traditional talk therapies might not fully address. Recent studies from 2021 to 2025 indicate that approximately 15% of active-duty service members experience elevated PTSD symptoms, with art therapy showing a 50% reduction in anxiety levels in targeted programs. This method not only aids in processing traumatic experiences but also builds a sense of community among participants, fostering mutual support networks essential for long-term recovery. Furthermore, art's accessibility allows for personalized engagement, adapting to diverse cultural backgrounds within the military ranks. Policymakers are increasingly recognizing the need to incorporate such creative modalities to enhance overall troop morale and readiness. [1]

Exploring the historical context reveals that art has long served as a tool for warriors to cope with the aftermath of conflict, from ancient cave paintings depicting battles to modern veteran art exhibitions. In contemporary settings, programs like those implemented by the U.S. Department of Veterans Affairs have utilized art therapy to address the 9.9% prevalence of anxiety among veterans as reported in 2023 surveys. This therapeutic avenue encourages self-reflection, enabling service members to reconstruct their narratives in a safe, creative space away from the rigors of duty. The multifaceted nature of art—encompassing visual, performative, and auditory forms—provides varied entry points for individuals with differing psychological profiles. Evidence suggests that consistent participation in art sessions correlates with improved cognitive functions, reducing hypervigilance by up to 40%

in some cohorts studied between 2022 and 2024. Such outcomes highlight art's potential to bridge gaps in conventional mental health services, particularly for those resistant to verbal disclosure. [2] The significance of art in shaping military mentality extends beyond symptom alleviation to encompass preventive measures that bolster psychological resilience before deployment. Training modules incorporating creative exercises have been piloted in recent years, showing a 30% increase in emotional coping skills among recruits as per 2021-2025 data from military health initiatives. This proactive stance aligns with broader wellness paradigms, emphasizing holistic development rather than reactive treatment. Art facilitates the exploration of identity shifts post-service, aiding in the transition to civilian life where mental health challenges often intensify. Statistical analyses from global military studies underline that nations integrating arts into their programs report lower suicide ideation rates, approximately 20% below averages. Consequently, advocating for expanded art resources within armed forces could yield substantial benefits in sustaining a mentally robust workforce. [3]

Main Body

Understanding the psychological landscape of military personnel begins with acknowledging the pervasive impact of trauma on their daily functioning, where art emerges as a vital conduit for expression. Service members frequently encounter barriers to verbalizing experiences, making non-verbal mediums like drawing or sculpture invaluable for unpacking suppressed emotions. A 2023 study on veterans revealed that 29% of those with PTSD benefited from art interventions, experiencing notable decreases in intrusive thoughts. This process not only externalizes internal conflicts but also empowers individuals to reclaim control over their narratives. Moreover, art therapy sessions often incorporate group dynamics, enhancing interpersonal connections that combat isolation common in military life. The therapeutic alliance formed through shared creative activities strengthens trust, pivotal for long-term mental health maintenance. [4]

Delving into specific art forms, music therapy stands out for its rhythmic qualities that synchronize with physiological responses, aiding in stress reduction among troops. Rhythms and melodies can lower cortisol levels, as evidenced by a 2024 trial where participants showed a 45% drop in anxiety markers after weekly sessions. This modality resonates particularly with auditory learners in the military, facilitating emotional release without the pressure of articulation. Instruments become extensions of the self, allowing for improvisation that mirrors the unpredictability of combat scenarios. Follow-up assessments in 2025 indicated sustained improvements in mood stability for 60% of involved service members. Integrating music into routine drills could preemptively build resilience against psychological strain. [5]

Visual arts, such as painting, offer a canvas for metaphorically representing abstract fears, transforming intangible distress into tangible forms that can be analyzed and altered. In a 2022 program for active-duty personnel, 83% reported diminished stress through color exploration, correlating with better sleep patterns. This creative outlet encourages mindfulness, diverting attention from hyperarousal to focused artistic endeavor. Veterans' galleries showcase these works, providing validation and a sense of accomplishment often eroded by service demands. Data from 2021-2024 cohorts highlight a 66% decrease in depression symptoms via consistent visual engagement. Thus, institutional support for art supplies in barracks could amplify these benefits. [6]

Theater and performative arts introduce role-playing elements that simulate real-life scenarios, helping military personnel rehearse emotional responses in a controlled environment. A 2025 qualitative analysis found that 70% of participants improved in empathy skills, crucial for team cohesion. Improvisation fosters adaptability, mirroring the fluid nature of missions while safely exploring vulnerability. Scripts drawn from personal stories demystify trauma, reducing stigma around mental health discussions. Longitudinal tracking from 2021 shows a 50% reduction in social withdrawal among theater-involved groups. Encouraging unit-level performances could integrate this into military culture seamlessly. [7]

Beyond individual benefits, art's communal aspect cultivates a supportive ecosystem within military ranks, countering the hierarchical isolation that exacerbates mental health issues. Group mural projects, for instance, promote collaboration, as seen in 2023 initiatives where completion rates linked to a 40% boost in morale surveys. Shared creativity breaks down barriers, allowing ranks to connect on human levels beyond duty. This inclusivity extends to diverse backgrounds, enriching the collective experience. Statistics from 2024 reveal lower absenteeism in art-engaged units, attributing it to enhanced psychological fortitude. Fostering such environments demands leadership endorsement for sustained impact. [8]

Examining neurobiological underpinnings, art engagement activates brain regions associated with reward and relaxation, mitigating the fight-or-flight responses ingrained in military training. Functional MRI studies in 2022 demonstrated increased prefrontal cortex activity during art sessions, correlating with better decision-making under stress. This neurological shift supports emotional recalibration, essential for those with chronic hypervigilance. Hormonal balances improve, with endorphin releases mimicking natural antidepressants. A 2025 meta-analysis confirmed these effects in 80% of military samples. Incorporating biofeedback with art could optimize these outcomes further. [9]

Cultural dimensions of art therapy resonate deeply in multinational forces, where symbols and traditions vary, yet universal themes of heroism and loss unite participants. A 2024 cross-cultural study among allied troops showed art bridging linguistic gaps, with 75% reporting stronger alliances post-sessions. Indigenous art forms honor heritage, preventing cultural erasure amid service demands. This respect enhances identity affirmation, countering alienation. Data from 2021-2023 indicate reduced cultural adjustment disorders in diverse units using tailored art programs. Global military collaborations could standardize these practices for broader efficacy. [10]

Preventive applications of art in pre-deployment phases prepare minds for potential adversities, instilling coping mechanisms early. Simulation workshops using clay modeling for scenario planning in 2023 yielded a 35% increase in perceived readiness. This foresight reduces shock upon exposure to trauma, buffering against severe reactions. Educational modules blend art with psychological briefings, making abstract concepts concrete. Follow-up in 2025 noted fewer initial PTSD diagnoses in prepared cohorts. Mandating such training could revolutionize military mental health protocols. [11]

Post-service transition poses unique challenges where art aids in redefining purpose beyond uniform, easing civilian reintegration. Veteran art collectives in 2022 facilitated job skill transfers, like creativity in problem-solving, boosting employment rates by 25%. Exhibitions provide platforms for storytelling, validating experiences and garnering public empathy. This visibility combats veteran

stereotypes, fostering societal support. Statistics from 2024 show a 55% drop in isolation feelings among art-active veterans. Community partnerships amplify these transitional supports. [12]

Gender-specific considerations reveal that female service members benefit from art's emphasis on relational expression, addressing underreported traumas like military sexual assault. A 2025 study highlighted 65% improvement in self-esteem through feminist art therapy groups. Tailored approaches account for societal pressures, empowering voices often marginalized. Male counterparts find solace in abstract forms, avoiding vulnerability stigma. Integrated programs from 2021 ensure equity, with balanced participation yielding holistic unit health. Sensitivity training for facilitators enhances outcomes. [13]

Adolescent recruits, entering service young, require art interventions that nurture developing psyches amid rigorous demands. Programs in 2023 using digital art tools engaged tech-savvy youth, reducing burnout by 40%. This modernity aligns with generational preferences, sustaining interest. Mentorship through art builds generational bridges, transmitting wisdom creatively. Data from 2024 confirm enhanced retention rates in such initiatives. Youth-focused policies could safeguard future forces. [14]

Economic analyses underscore art therapy's cost-effectiveness compared to pharmaceutical dependencies, with 2022 reports showing 30% savings in long-term care. Low material costs make it scalable across bases. Return on investment manifests in reduced medical leaves, as per 2025 audits. Philanthropic funding supplements budgets, expanding reach. These fiscal incentives drive policy adoption. [15]

Ethical frameworks guide art therapy implementation, ensuring confidentiality and voluntary participation to avoid coercion. Guidelines from 2021 emphasize informed consent, protecting vulnerable states. Cultural competence prevents imposition of biases. Oversight committees monitor efficacy, adapting to feedback. A 2024 review affirmed ethical adherence correlates with higher trust levels. Upholding standards preserves program's integrity. [16]

Technological integrations, like virtual reality art spaces, extend access to remote deployments, as trialed in 2023 with 70% user satisfaction. Digital platforms democratize participation, overcoming logistical barriers. AI-assisted feedback personalizes experiences. Projections for 2025 anticipate widespread adoption, enhancing global connectivity. Innovation sustains relevance. [17]

Comparative international perspectives illustrate varying art integration successes, with Scandinavian models showing 50% lower PTSD rates via national programs since 2021. Lessons from these inform U.S. adaptations, emphasizing community involvement. Collaborative research in 2024 fosters knowledge exchange. Global benchmarks elevate standards. [18]

Interdisciplinary synergies combine art with psychology, medicine, and sociology for comprehensive care, as evidenced by 2022 hybrid models reducing symptoms by 60%. Team approaches leverage diverse expertise. Training cross-pollinates skills. A 2025 symposium highlighted synergies' potential. Fusion drives innovation. [19]

Longitudinal impacts manifest in sustained well-being, with 2024 follow-ups showing 75% maintenance of gains post-art therapy. Relapse prevention strategies embed art habits. Family inclusion extends benefits. Community resources reinforce continuity. Enduring effects justify investment. [20]

Aspect of Art Therapy	Impact on PTSD Symptoms (2021-2025 Studies)	Percentage Reduction in Symptoms	Sample Size
Visual Arts	Decreased intrusive thoughts and anxiety	50%	500
Music Therapy	Improved emotional regulation and mood	45%	300
Theater	Enhanced social integration and empathy	40%	400
Group Sessions	Reduced isolation and depression	55%	600
Digital Art	Boosted cognitive flexibility	35%	200
Mask-Making	Facilitated trauma processing	60%	250
Painting	Lowered hypervigilance	40%	350
Sculpture	Increased resilience	50%	450
Dance/Movement	Alleviated physical tension and stress	30%	150
Combined Modalities	Overall mentality improvement	66%	800

Conclusion

Reflecting on the extensive exploration of art's role in military psychology, it becomes evident that creative interventions significantly enhance emotional resilience by providing outlets for unexpressed traumas accumulated during service. Programs implemented between 2021 and 2025 have demonstrated consistent reductions in PTSD prevalence, with integrated art therapies yielding up to 60% improvement in overall mental health metrics across diverse cohorts. This holistic approach not only addresses immediate symptoms but also equips personnel with lifelong coping strategies, fostering a culture of openness within traditionally stoic environments. The synergy between art and conventional treatments amplifies efficacy, as evidenced by lower relapse rates in follow-up studies. Ultimately, prioritizing art in military wellness frameworks promises sustained psychological fortitude, benefiting both individuals and operational units. Key conclusions include: first, art therapy markedly reduces PTSD symptoms; second, it promotes social cohesion; third, it aids in identity reformation post-service; fourth, it offers cost-effective preventive measures.

Synthesizing the findings further underscores art's transformative potential in reshaping military mentality from reactive to proactive paradigms, where creativity becomes a cornerstone of health maintenance. Data from recent years illustrate that service members engaging in art report heightened self-awareness, crucial for navigating post-deployment challenges. This empowerment translates to broader societal reintegration, reducing burdens on healthcare systems. The evidence supports scalable models that could be adapted globally, ensuring equitable access. In essence, art's integration represents a paradigm shift toward human-centered military care. The four primary conclusions are: art diminishes anxiety and depression; it enhances interpersonal relationships; it facilitates cultural expression; and it bolsters long-term resilience.

Recommendations

1. Develop specialized art therapy certification programs for military psychologists, incorporating virtual reality tools to simulate deployment scenarios and enable remote access for troops in isolated areas, ensuring personalized trauma processing without logistical constraints.
2. Establish inter-unit art exchange initiatives where service members from different branches collaborate on large-scale installations, fostering cross-cultural understanding and reducing inter-service rivalries through shared creative narratives.
3. Integrate biofeedback devices into art sessions to provide real-time data on physiological responses, allowing for adaptive therapy adjustments that optimize emotional regulation and track progress quantitatively over extended periods.
4. Launch veteran-led art mentorship networks pairing retired personnel with active-duty members, emphasizing narrative ownership to build generational resilience and prevent the transmission of untreated trauma patterns.

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KORPORATIV MOLIYANING NAZARIY VA HUQUQIY ASOSLARI

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Annotatsiya: Mazkur tezisda korporativ moliyaning nazariy va huquqiy asoslari tizimli ravishda o'rganilib, ularning amaliyotdagi ahamiyati tahlil qilingan. Tadqiqotda korporativ moliyaning mazmuni, asosiy tamoyillari, kapital tuzilmasi, investitsiya va dividend siyosati kabi nazariy jihatlar yoritilib, ularni tartibga soluvchi me'yoriy-huquqiy baza ko'rib chiqilgan. Shuningdek, mamlakatimizda korporativ moliyani samarali tashkil etishning amaldagi holati baholanib, mavjud muammolar va ularni bartaraf etish yo'nalishlari asoslab berilgan. Ish yakunida korporativ moliya tizimini takomillashtirish orqali iqtisodiy barqarorlikni ta'minlash va korporativ boshqaruv samaradorligini oshirish bo'yicha taklif va tavsiyalar ishlab chiqilgan.

Kalit so'zlar: Korporativ moliya, korporativ boshqaruv, kapital tuzilmasi, investitsiya qarorlari, dividend siyosati, moliyaviy risk, bozor kapitalizatsiyasi, qimmatli qog'ozlar muomalasi, investor ishtiroki, aksiyadorlar manfaatlari, moliyaviy resurslar, korxona qiymati, iqtisodiy barqarorlik, investitsiya jozibadorligi, yirik bitimlar, moliyaviy samaradorlik.

Erkin iqtisodiy munosabatlar sharoitida har bir tijorat tashkilotining asosiy vazifasi sifatida yuqori foyda olish va mulkdorlar manfaatlarini qanoatlantirish maqsadida moliyaviyxo'jalik faoliyatini tashkil etish bo'lib, Bozor munosabatlarida bozorning har qanday sub'ekti sotuvchi va xaridor sifatida qatnashishi mumkin. Bu jarayonda bozor munosabatlarini rivojlantirish korporativ moliyaning jamiyatdagi rolini kuchaytirishni talab qiladi. Har qanday moliyaviy munosabatning moddiy asosi pul hisoblanadi. Pul mablag'larining sub'ektlar o'rtasidagi maqsadli harakati moliyaviy munosabatning yuzaga kelish asosiy shartidir.

Korporativ moliya korxonalarning moliyaviy resurslarini shakllantirish, taqsimlash va ulardan samarali foydalanish bilan bog'liq bo'lgan iqtisodiy munosabatlar tizimini ifodalaydi. Uning asosiy maqsadi korxona qiymatini oshirish, foydalilikni ta'minlash hamda aksiyadorlar manfaatlarini maksimal darajada himoya qilishdan iborat.

Shuni alohida qayd etish joizki, korporativ tuzilma tadbirkorlik faoliyatini amalga oshiruvchi yuridik shaxs hisoblanadi. Yuridik shaxs deganda oʻz mulkiga yoki xoʻjalik yuritish hamda operativ boshqaruv huquqi asosida alohida mol-mulkka ega boʻlgan, oʻz majburiyatlari boʻyicha ushbu mol-mulk bilan javob beradigan, oʻz nomidan mulkiy va shaxsiy nomulkiy huquqlarni qoʻlga kiritish va amalga oshirish, majburiyatlarni bajarish, shuningdek sud jarayonlarida daʼvogar yoki javobgar sifatida ishtirok etish huquqiga ega boʻlgan tashkilot tushuniladi.

Korporativ moliyaning nazariy asoslari kapital tuzilmasini optimallashtirish, investitsiya qarorlarini baholash, dividend siyosatini yuritish va moliyaviy risklarni boshqarish kabi yoʻnalishlarni qamrab oladi. Mazkur nazariyalar Modilyani–Miller kapital tuzilmasi nazariyasi, diskontlangan pul oqimlari konsepsiyasi hamda agentlik nazariyasiga asoslanadi.¹ Bundan tashqari korporativ moliyaning nazariy asoslari korxona qiymatini maksimal darajada oshirishga yoʻnaltirilgan zamonaviy moliyaviy nazariya va boshqaruv konsepsiyalari orqali shakllanadi.

Nazariy asoslar quyidagilarni oʻz ichiga oladi:

1. **Kapital tuzilmasi nazariyasi** qarz va aksiyalar orqali mablagʻlarni jalb qilish, optimal kapital nisbatini aniqlash, moliyaviy risklarni baholash va leverej effektini hisobga olish hisoblanadi.
2. **Investitsiya qarorlari** loyihalarning iqtisodiy samaradorligini baholash (NPV, IRR, payback period), portfel va risk boshqaruvidir.
3. **Dividend siyosati** sof foydaning qay darajada reinvestitsiya qilinishi yoki aksiyadorlar oʻrtasida taqsimlanishini belgilash boʻlib, bu korxona bozor qiymati va aksiyadorlar daromadiga taʼsir qiladi.
4. **Moliyaviy boshqaruv va nazariy modellar** moliyaviy hisobotlarni tahlil qilish, likvidlik va rentabellik koʻrsatkichlarini hisoblash, raqobatbardoshlikni oshirish va kapital samaradorligini taʼminlashni oʻz ichiga oladi.

Korporativ moliyaning huquqiy asoslari esa korporativ faoliyatni tartibga soluvchi meʼyoriy-huquqiy hujjatlar orqali belgilanadi. Ularning asosiy manbai — Oʻzbekiston Respublikasining “Aksiyadorlik jamiyatlari va aksiyadorlarning huquqlarini himoya qilish toʻgʻrisida”gi Qonuni. Mazkur qonun dastlab 1996-yil 26-aprelda № 223-I-son bilan qabul qilingan boʻlsa, uning yangi tahriri 2014-yil 6-mayda № 370-LRU bilan amaliyotga kiritilgan.² Qonun korporativ boshqaruvni mustahkamlash va aksiyadorlarning huquqlarini himoya qilishga qaratilgan. Qonunda

1. ¹ Modigliani, F., Miller, M. Corporate Finance: Theory and Practice, New York, 2018.

² <https://lex.uz/docs/-2382409>

korporativ tuzilmalarni tashkil etish, ularning ustav kapitali, faoliyati va boshqaruv organlari huquqiy maqomi aniq belgilangan. Shu bilan birga aksiyadorlarning umumiy yig'ilishda qatnashish, ovoz berish, dividend olish va yil davomida ma'lumot olish huquqlari himoya qilinadi. Qonun aksiyalar va boshqa qimmatli qog'ozlar bilan bog'liq munosabatlarni tartibga soladi, jumladan aksiyalarning turlari, ularni joylashtirish va muomalasi, aksiyadorlar reestri, yirik bitimlar bo'yicha qo'shimcha talablar va likvidatsiya masalalari.

Shu bois, mazkur qonun korporativ moliyaning huquqiy asosini shakllantiruvchi markaziy hujjat bo'lib, u korporativ boshqaruv, moliyaviy-huquqiy munosabatlar va aksiyadorlar huquqlarini tartibga soladi. Korporativ moliya faoliyatini qonuniy va shaffof tarzda tashkil etish orqali mamlakat iqtisodiyotining barqarorligini ta'minlash va investitsiya muhitini yaxshilash imkoniyatlari yaratiladi.

O'zbekiston korporativ tuzilmalari va qimmatli qog'ozlar bozorining statistik ko'rsatkichlari

1-jadval

Ko'rsatkich	2020-yil	2022-yil	2024-yil	O'sish/Trend
Ro'yxatdan o'tgan aksiyadorlik jamiyatlari soni	2.350	2.780	3.120	+32.8%
Bozor kapitalizatsiyasi	12.500	18.200	24.000	+92%
Faol aksiyadorlar soni	45.000	58.000	72.000	60%
Qimmatli qog'ozlar muomalasi hajmi	3.200	4.800	6.500	+103%
Dividend to'lovlari	450	720	1.050	+133%

Yirik bitimlar soni	15	22	30	+100%

Yuqoridagi jadvaldan ko‘rinib turibdiki, O‘zbekistonda aksiyadorlik jamiyatlari va korporativ moliya tizimi so‘nggi yillarda barqaror o‘sish sur‘atlarini namoyon qilmoqda. 2020-yildan 2024-yilgacha ro‘yxatdan o‘tgan aksiyadorlik jamiyatlari soni 32,8% ga oshgan bo‘lsa, bozor kapitalizatsiyasi 92% ga ko‘tarilgan. Bu esa korporativ moliya faoliyatining samarali rivojlanayotganligini va investorlar ishtirokining ortayotganligini ko‘rsatadi. Qimmatli qog‘ozlar muomalasi hajmi va yirik bitimlar sonining oshishi korporativ boshqaruvning faoliyatini kuchaytirganini bildiradi. Shu bilan birga dividend to‘lovlarining 133% ga o‘sishi aksiyadorlar manfaatlarini himoyasining kuchayganligini ham ko‘rsatadi.

Umuman olganda, statistik ma‘lumotlar shuni tasdiqlaydi ki, huquqiy asoslar (aksiyadorlar huquqlari va korporativ boshqaruv tamoyillari) bilan birgalikda nazariy moliyaviy tamoyillar korporativ moliya tizimining samarali ishlashiga, kapital bozorining rivojlanishiga va iqtisodiy barqarorlikni ta‘minlashga xizmat qilmoqda.

Xulosa qilib aytganda, ushbu tezisda korporativ moliyaning nazariy va huquqiy asoslari, shuningdek O‘zbekistonda uni samarali tashkil etish masalalari keng yoritildi. Tadqiqot natijalari shuni ko‘rsatadiki, korporativ moliya faoliyatining samaradorligi nafaqat nazariy moliyaviy tamoyillar, balki mustahkam huquqiy asoslar bilan ham bog‘liq.

Nazariy jihatdan korporativ moliya kapital tuzilmasini optimallashtirish, investitsiya qarorlarini baholash, dividend siyosatini shakllantirish va moliyaviy risklarni boshqarish orqali kompaniya qiymatini oshirishga qaratilgan. Huquqiy jihatdan esa O‘zbekiston Respublikasining “Aksiyadorlik jamiyatlari va aksiyadorlarning huquqlarini himoya qilish to‘g‘risida”gi Qonuni korporativ boshqaruv organlari vakolatlari, aksiyadorlarning huquqlari va moliyaviy operatsiyalarni tartibga soladi.

Statistik ma‘lumotlar tahlili shuni ko‘rsatadiki, oxirgi yillarda ro‘yxatdan o‘tgan aksiyadorlik jamiyatlari soni, bozor kapitalizatsiyasi, qimmatli qog‘ozlar muomalasi va dividend to‘lovlari sezilarli darajada oshgan. Bu korporativ moliya tizimining samarali ishlashini va investorlar ishtirokining ortayotganligini ko‘rsatadi.

Tadqiqot davomida ilgari surilgan tavsiyalar — boshqaruvni takomillashtirish, aksiyadorlar huquqlarini himoya qilish, kapital bozorini rivojlantirish, moliyaviy nazoratni kuchaytirish, nazariy bilimlarni amaliyotga joriy etish va raqamli texnologiyalarni keng qo‘llash — korporativ moliya tizimini yanada shaffof va samarali qilishga xizmat qiladi. Shu bois, korporativ moliyani samarali tashkil etish

orqali kompaniyalar kapitalini optimallashtirish, investorlar ishonchini oshirish va O'zbekiston iqtisodiyotining barqarorligini mustahkamlash imkoniyatlari yaratiladi. Ushbu tadqiqot natijalari asosida O'zbekistonda korporativ moliya tizimini yanada samarali tashkil etish va rivojlantirish bo'yicha bir qator tavsiyalarni ilgari surish mumkin. Birinchidan, korporativ boshqaruvni takomillashtirish zarur. Bunda aksiyadorlik jamiyatlarida boshqaruv kengashi va ijro organlari faoliyatini shaffof va samarali qilish, shuningdek moliyaviy va strategik qarorlarni qabul qilish bo'yicha standartlar joriy etish lozim. Bu kompaniyalarning ichki boshqaruv tizimini kuchaytiradi va moliyaviy barqarorlikni oshiradi. Ikkinchidan, aksiyadorlar va investorlarning huquqlarini himoya qilish tizimini kuchaytirish muhim. Masalan, elektron reestrlarni yuritish tizimini kengaytirish, dividend siyosati bo'yicha shaffof mexanizmlar yaratish va aksiyadorlar bilan muntazam ma'lumot almashishni ta'minlash orqali ularning huquqlari samarali himoya qilinadi. Uchinchidan, kapital bozorini rivojlantirish zarurati mavjud. Qimmatli qog'ozlar muomalasini soddalashtirish, yirik bitimlar va investitsion loyihalarga davlat tomonidan rag'batlar berish orqali korporativ moliya bozorini kengaytirish va investorlar ishtirokini oshirish mumkin.

Shuningdek, moliyaviy nazorat va auditni kuchaytirish tavsiya etiladi. Korporativ tuzilmalarda ichki audit tizimini mustahkamlash, moliyaviy hisobotlarning shaffofligini oshirish va mustaqil auditorlar faoliyatini tartibga solish kapital samaradorligini oshirishga xizmat qiladi.

Bundan tashqari, zamonaviy nazariy bilimlarni amaliyotga joriy etish muhim ahamiyatga ega. Korporativ moliya va boshqaruvning zamonaviy nazariy modellarini kompaniyalarda qo'llash, rahbarlar va moliya xodimlari uchun maxsus trening va malaka oshirish dasturlarini tashkil etish korporativ moliya tizimini yanada rivojlantiradi.

Oxirgi navbatda, raqamli texnologiyalarni joriy etish korporativ moliya jarayonlarini shaffof va samarali qilishga xizmat qiladi. Moliyaviy hisobotlar va qimmatli qog'ozlar bozorini monitoring qilish uchun elektron tizimlar yaratish, investorlar uchun onlayn platformalarni kengaytirish va masofadan turib aksiyalar hamda dividendlarni boshqarish imkoniyatlarini taqdim etish tavsiya etiladi.

Shu tariqa, mazkur tavsiyalar amalga oshirilsa, O'zbekistonda korporativ moliya tizimi yanada shaffof, samarali va investorlar uchun jozibador bo'lib, mamlakat iqtisodiyotining barqarorligini mustahkamlashga xizmat qiladi.

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VOLEBOLDA YOSH SPORTCHILARNI TAYYORLASHDA JISMONIY VA PSIXOLOGIK TAYYORGARLIKNING UYG'UNLIGI

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Annotatsiya: Ushbu tezisda voleybolda yosh sportchilarni tayyorlash jarayonida jismoniy va psixologik tayyorgarlikning uyg‘unligi yoritiladi. Sportchining jismoniy sifatlari bilan bir qatorda motivatsiya, o‘ziga ishonch, stressga chidamlilik kabi psixologik omillar ham yuqori natijaga erishishda muhim ahamiyat kasb etadi. Mashg‘ulotlarda jismoniy yuklama va psixologik tayyorgarlikni birgalikda olib borish sportchilarning musobaqadagi barqarorligini oshiradi.

Kalit so‘zlar: voleybol, yosh sportchi, jismoniy tayyorgarlik, psixologik tayyorgarlik, motivatsiya, stress.

Abstract. This thesis discusses the harmony of physical and psychological training in preparing young volleyball athletes. Along with physical qualities, psychological factors such as motivation, self-confidence, and stress resistance play an important role in achieving high performance. The combined use of physical load and psychological training during practice increases athletes’ stability in competitions.

Keywords: volleyball, young athlete, physical training, psychological training, motivation, stress.

Voleybol sport turi yuqori tezlik, tez fikrlash, harakatlarni aniq muvofiqlashtirish hamda jamoa bilan hamkorlikni talab qiladigan murakkab sport turlaridan biridir. Ayniqsa yosh sportchilarni tayyorlash jarayonida natijaga erishish faqat jismoniy tayyorgarlik bilan cheklanib qolmaydi, balki psixologik tayyorgarlik bilan uzviy bog‘liq holda olib borilishi zarur. Chunki yosh voleybolchilarda organizmning jismoniy rivojlanishi bilan birga psixik jarayonlar ham shakllanish bosqichida bo‘ladi.

Shuning uchun sport mashg'ulotlarida jismoniy yuklama va psixologik ta'sir bir-birini to'ldirishi sportchining umumiy tayyorgarligini oshiradi.

Yosh voleybolchilarda jismoniy tayyorgarlik asosiy harakat sifatlari — tezkorlik, kuch, chidamlilik, chaqqonlik va egiluvchanlikni rivojlantirishga qaratiladi. Voleybol o'yini davomida sportchi qisqa vaqt ichida tez yugurish, sakrash, to'xtash, yo'nalishni o'zgartirish, zarba berish va himoyaga qaytish kabi harakatlarni takroran bajaradi. Shu sababli tezkor kuch, koordinatsiya hamda umumiy chidamlilik yosh sportchilar uchun asosiy ko'rsatkich hisoblanadi. Biroq jismoniy tayyorgarlikning samarasi sportchining ruhiy holati, ichki motivatsiyasi va musobaqa sharoitida o'zini boshqarish qobiliyatiga bevosita bog'liq.

Psixologik tayyorgarlik esa yosh sportchining musobaqaga ruhiy tayyorligi, stressga chidamliligi, diqqatni jamlay olishi, o'ziga ishonchi, jamoa bilan muloqot madaniyati va irodaviy sifatlarini shakllantirishga xizmat qiladi. Musobaqa jarayonida sportchi ko'pincha kuchli raqib, tomoshabin bosimi, hakam qarorlari, xatolar yoki mag'lubiyat xavfi kabi psixologik bosimlarga duch keladi. Bunday vaziyatlarda sportchi ruhiy barqaror bo'lmasa, u jismonan yaxshi tayyorlangan bo'lsa ham o'z imkoniyatini to'liq namoyon qila olmaydi. Shuning uchun psixologik tayyorgarlik sport natijasini belgilovchi muhim omil sifatida qaraladi.

Jismoniy va psixologik tayyorgarlikning uyg'unligi sport mashg'ulotlarida murabbiy tomonidan rejalashtirilgan tizimli yondashuv orqali ta'minlanadi. Masalan, yuqori yuklamali mashqlar paytida sportchining ruhiy bardoshliligi, o'zini nazorat qilishi, vaziyatni tez tahlil qilishi ham rivojlanadi. Shuningdek, mashg'ulot jarayonida motivatsiyani oshirish, o'yin elementlarini musobaqaga yaqin sharoitda tashkil etish, jamoaviy hamkorlikni kuchaytirish, sportchiga ijobiy psixologik muhit yaratish katta ahamiyatga ega. Murabbiy yosh sportchi bilan individual ishlashi, uning xarakteri, temperament xususiyatlarini hisobga olishi va sportchining o'ziga bo'lgan ishonchini mustahkamlashi zarur.

Yosh voleybolchilar bilan ishlashda psixologik tayyorgarlikning asosiy yo'nalishlariga motivatsiyani shakllantirish, maqsad qo'yish, emotsiyalarni boshqarish, o'zini tutish madaniyati, musobaqa oldi hayajonini kamaytirish, jamoa ichida sog'lom raqobat va do'stona muhit yaratish kiradi. Bu jarayonda sportchining shaxs sifatida rivojlanishi ham muhim o'rin tutadi. Chunki voleybol — jamoaviy sport bo'lib, unda o'zaro tushunish, mas'uliyat va intizom natijaga bevosita ta'sir qiladi.

Xulosa qilib aytganda, voleybolda yosh sportchilarni tayyorlashda jismoniy va psixologik tayyorgarlikni uyg'unlashtirish sportchining umumiy sport mahoratini oshiradi, musobaqa jarayonida barqaror o'yin ko'rsatishiga yordam beradi hamda

kelajakda yuqori natijalarga erishish uchun mustahkam poydevor yaratadi. Shuning uchun murabbiylar mashg'ulot jarayonida nafaqat jismoniy yuklamalarni, balki psixologik yondashuv va tarbiyaviy omillarni ham tizimli ravishda amalga oshirishi zarur.

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EXPERIENCE OF ADVANCED FOREIGN ARMIES IN PROVIDING OUTSOURCING SERVICES IN THE FOOD SUPPLY SYSTEM OF THE NATIONAL GUARD

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Abstract: this article explores the integration of outsourcing services in food supply chains within national guard systems, drawing on experiences from advanced foreign militaries to inform potential reforms in Uzbekistan's National Guard. By analyzing models from countries such as the United States, the United Kingdom, Germany, France, and others, the study highlights how outsourcing enhances efficiency, reduces costs, and improves nutritional quality while addressing challenges like quality control and dependency on private contractors. Ultimately, the research proposes tailored recommendations for Uzbekistan, emphasizing the adoption of hybrid outsourcing approaches that align with national security priorities and leverage international best practices to ensure resilient and sustainable food provisioning for military personnel.

Keywords: National Guard, food supply outsourcing, military catering, advanced foreign armies, logistics efficiency, quality control, cost reduction, hybrid models, Uzbekistan reforms, international experiences, nutritional standards

INTRODUCTION

In the contemporary landscape of military operations, the effective management of food supply chains has emerged as a critical component for maintaining troop readiness and operational effectiveness, particularly within national guard systems that often operate in diverse and challenging environments. Advanced foreign armies have increasingly turned to outsourcing services to streamline these processes, allowing military personnel to focus on core defense duties while leveraging private sector expertise in procurement, preparation, and distribution of meals. This shift not only addresses budgetary constraints but also incorporates modern technologies for tracking and quality assurance, ensuring that soldiers receive balanced nutrition tailored to their demanding roles. For Uzbekistan's National Guard, which plays a pivotal role in internal security and emergency response, understanding these international practices could provide valuable insights into enhancing its own food provisioning mechanisms. Moreover, as global conflicts and peacekeeping missions evolve, the reliance on efficient logistics becomes paramount, with outsourcing offering a pathway to adaptability and resilience against supply disruptions. The experiences of nations like the United States demonstrate how strategic partnerships with contractors can transform traditional in-house systems into more agile frameworks, ultimately contributing to overall military morale and performance.

The evolution of military food supply strategies in advanced armies reflects broader trends in defense modernization, where outsourcing has been adopted to mitigate the limitations of state-managed systems that often struggle with scalability and innovation. In the United Kingdom, for instance, companies specializing in defense catering have taken over operations, providing customized services that include everything from daily meals to field rations, thereby reducing overhead costs for the

armed forces. This approach has proven effective in maintaining high standards of food safety and variety, which are essential for sustaining long-term deployments. Similarly, Germany's Bundeswehr has explored partial outsourcing to complement its centralized subsistence office, focusing on efficiency gains in stationary and mobile feeding scenarios. For Uzbekistan, whose National Guard operates under a framework influenced by post-Soviet structures, these models offer lessons in balancing sovereignty with private sector involvement. [1] The integration of such practices could help address regional challenges like resource scarcity and logistical complexities in Central Asia, fostering a more robust system that aligns with national development goals.

Furthermore, the strategic importance of outsourcing in military food supply extends beyond mere cost savings to encompass enhancements in nutritional science and sustainability, as seen in French and Israeli models that prioritize health-oriented menus and rapid response capabilities. France's Economat des Armées exemplifies a public-private partnership that has modernized catering through outsourced logistics, ensuring timely delivery even in overseas operations. This has implications for Uzbekistan's National Guard, which must contend with diverse terrains and potential emergency mobilizations, where reliable food access directly impacts operational readiness. By examining these international precedents, policymakers can identify adaptable elements, such as incentive-based contracts and rigorous oversight mechanisms, to prevent common pitfalls like supply chain vulnerabilities. [2] Ultimately, adopting a phased outsourcing strategy could position Uzbekistan's military logistics as a regional benchmark, promoting food security while supporting economic growth through local vendor engagement.

Main Body

Exploring the historical context of military food supply reveals that many advanced armies transitioned from fully in-house operations to outsourcing amid post-Cold War budget pressures and the need for specialized expertise. In the United States, the Defense Logistics Agency (DLA) has overseen subsistence since the 1990s, partnering with contractors like Sodexo to manage dining facilities across bases and deployments, resulting in improved meal variety and reduced waste. This model emphasizes performance-based contracts where vendors are evaluated on metrics such as nutritional compliance and delivery timelines, allowing the military to allocate resources toward combat training rather than kitchen management. Recent data from 2025 indicates that U.S. military outsourcing in logistics saved approximately 15% in operational costs compared to traditional methods, highlighting its fiscal advantages. For national guard units, which often handle domestic emergencies, this approach ensures rapid scalability during crises like natural disasters. [3] Uzbekistan's National Guard could draw parallels, adapting similar vendor partnerships to enhance its response capabilities in internal security scenarios.

Shifting focus to European practices, the United Kingdom's Armed Forces have relied on companies such as ESS and Aramark for over four decades, outsourcing catering to support personnel in both garrison and field environments. These firms deliver integrated services, including menu planning aligned with dietary needs and sustainable sourcing, which has boosted morale and health outcomes among troops. A 2025 report from the UK Ministry of Defence noted a 20% increase in customer satisfaction following the adoption of high-street style dining options in military facilities. This success stems from flexible contracts that incorporate feedback loops and innovation clauses, encouraging contractors to introduce technologies like AI-driven inventory management. Challenges,

however, include ensuring alignment with military protocols during joint operations. [4] In contrast to Uzbekistan's current state-managed system, this British model underscores the potential for private sector involvement to introduce efficiencies without compromising security.

Delving into German approaches, the Bundeswehr Subsistence Office maintains primary control but has increasingly incorporated outsourcing elements, particularly in non-core areas like equipment supply and partial meal preparation. Since the early 2000s, Germany has saved millions through clothing management outsourcing, a precedent that extends to food services where private firms handle logistics for field kitchens. Statistics from 2024 show that this hybrid system reduced administrative burdens by 25%, allowing more focus on troop welfare. The emphasis on quality control involves strict EU-compliant hygiene standards, which minimize health risks in diverse operational settings. For national guards facing similar logistical demands, this balanced integration offers a template for gradual reform. [5] Uzbekistan might benefit from emulating such hybrids, starting with pilot programs in remote units to test vendor reliability.

Examining French innovations, the Economat des Armées has spearheaded outsourcing since 2003, centralizing food procurement and distribution through public-private partnerships that modernized military catering. This entity manages contracts for over 200 suppliers, ensuring combat rations like the RCIR meet nutritional and shelf-life requirements for extended missions. A 2025 evaluation revealed cost reductions of 18% while maintaining high food safety standards, facilitated by blockchain for traceability. The model's adaptability shines in overseas deployments, where rapid supply chains support allied operations. Potential drawbacks include dependency on external logistics during conflicts. [6] For Uzbekistan's National Guard, this framework could inspire reforms that align with its doctrinal emphasis on self-sufficiency, incorporating local suppliers to bolster economic ties. Turning attention to Russian Federation practices, the Ministry of Defense transitioned to outsourcing in the 2010s, contracting firms like Konkord for meal preparation in garrisons, which streamlined operations and cut kitchen staff by 50%. Recent 2025 data from ZaVO indicates enhanced ration variety, including culturally tailored options, improving soldier retention. Oversight mechanisms, such as incentive-punishment systems, ensure compliance with nutritional norms. However, geopolitical tensions have highlighted vulnerabilities in supply chains. [7] This experience resonates with Uzbekistan's post-Soviet heritage, offering insights into managing transitions while preserving state control over critical assets.

Assessing Japanese Self-Defense Forces, outsourcing focuses on efficiency in disaster response, partnering with private caterers for field feeding since the 1990s. A 2024 study showed 22% faster deployment times due to pre-packaged rations and vendor-supported logistics. Emphasis on technology, like automated vending for bases, enhances accessibility. Challenges involve maintaining quality in humid climates. [8] Uzbekistan could adapt these tech-driven elements to its arid regions, improving National Guard preparedness for emergencies.

Considering Kazakhstan's pioneering role, full outsourcing since 1996 has covered 95% of military feeding points, with 24 contractors handling 169 sites. This reduced staff by 70% and introduced quality controls via contractual rations. 2025 statistics report 15% cost savings and better nutritional outcomes. Remote units retain in-house options for flexibility. [9] As a Central Asian neighbor, Kazakhstan's model provides a culturally proximate blueprint for Uzbekistan's reforms.

Reviewing Israeli Defense Forces, food management combines in-house and outsourced elements, with recent Gaza aid distributions involving contractors like GHF amid conflicts. 2025 reports indicate challenges in security but efficiencies in urban operations. Focus on kosher standards and rapid resupply. [10] Uzbekistan might incorporate similar security protocols in its outsourcing strategies.

To visualize global trends, consider the following figure: A line graph depicting the growth of military logistics outsourcing market from USD 415.46 billion in 2025 to USD 455.22 billion in 2026, projected to USD 905.51 billion by 2030, based on increasing defense budgets and tech adoption (source: global market analyses).

Analyzing benefits across models, outsourcing consistently yields cost efficiencies, with U.S. examples showing 13-20% reductions through competitive bidding. Enhanced innovation, such as AI in supply chains, improves forecasting accuracy by 25%. Nutritional improvements boost troop health, reducing illness rates. [11] For Uzbekistan, these advantages could offset current inefficiencies in state procurement.

Identifying common challenges, dependency on contractors poses risks during disruptions, as seen in UK supply chain issues in 2024. Quality inconsistencies require robust oversight, with France's audits mitigating 90% of complaints. Cultural adaptation ensures meal acceptance. [12] Uzbekistan must prioritize local vendor training to address these.

Proposing hybrid models, combining in-house oversight with outsourcing allows flexibility, as in Germany's approach. Pilot programs in select National Guard units could test feasibility. Economic impacts include job creation in private sectors. [13]

Outlining implementation steps, Uzbekistan should revise regulations to enable contracts, drawing from Kazakhstan's framework. Training programs for monitors ensure compliance. International partnerships with FAO could provide technical aid.

Country	Outsourcing Model	Year Started	Key Benefits	Challenges
USA	Full contractor partnerships (e.g., Sodexo, DLA)	1990s	Cost savings (15%), improved variety, scalability for deployments	Dependency on vendors, oversight needs
UK	Integrated facilities management (e.g., ESS, Aramark)	1980s	20% satisfaction increase, sustainable sourcing	Alignment with military ops, supply disruptions
Germany	Hybrid with partial outsourcing	2000s	25% admin reduction, EU hygiene compliance	Balancing control, remote unit logistics
France	Public-private centralization (Economat des Armées)	2003	18% cost cuts, traceability via blockchain	External dependency in conflicts

Russia	Contracted meal preparation	2010s	50% staff reduction, cultural tailoring	Geopolitical vulnerabilities
Japan	Tech-focused field feeding	1990s	22% faster deployments, automation	Climate-specific quality issues
Kazakhstan	Full outsourcing for most sites	1996	15% savings, quality controls	Remote in-house retention
Israel	Mixed with security contractors	2000s	Rapid resupply, standards adherence	Security risks in contested areas
Uzbekistan (Proposed)	Pilot hybrid model	N/A	Potential efficiency gains, local job creation	Regulatory reforms needed, cultural adaptation

Conclusion

Reflecting on the comprehensive analysis of outsourcing in military food supply, it becomes evident that advanced foreign armies have achieved significant advancements in efficiency and resilience through strategic private sector engagements, which Uzbekistan's National Guard could emulate to modernize its operations. The U.S. and UK models demonstrate substantial cost reductions and improved nutritional outcomes, while European approaches like those in France and Germany highlight the value of hybrid systems that maintain oversight. Kazakhstan's experience, as a regional peer, underscores the feasibility of full outsourcing with minimal disruptions. [No citation here] Overall, these international precedents reveal four key conclusions: first, outsourcing enhances logistical agility; second, it promotes innovation in menu planning; third, it reduces fiscal burdens; and fourth, it requires robust regulatory frameworks to mitigate risks.

Building upon these insights, the adoption of outsourcing in Uzbekistan's context promises to strengthen national security by ensuring reliable food access for guardsmen, fostering economic partnerships, and aligning with global standards. The potential for hybrid models to address local challenges, such as resource constraints, positions this strategy as a forward-thinking reform. Moreover, integrating technology from Japanese and Israeli practices could further elevate system performance. [No citation here] In essence, the four conclusions pave the way for sustainable improvements: agility in crises, innovative nutrition, cost-effective management, and regulated implementations that safeguard sovereignty.

Recommendations

1. Based on the conclusion of enhanced logistical agility, implement pilot outsourcing programs in select National Guard units, focusing on remote areas to test rapid deployment capabilities with local tech-integrated vendors.
2. Drawing from innovative nutrition insights, develop contracts mandating diverse, health-focused menus using AI for personalization, partnering with international experts like FAO for training.
3. To leverage cost-effective management, establish performance-based incentives for contractors, targeting 15-20% savings through competitive bidding and blockchain traceability.
4. Aligning with regulated implementations, create a dedicated oversight body under the Ministry of Defense to monitor contracts, incorporating risk assessments and annual audits for security.

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РАННЯЯ ЛАПАРОСКОПИЧЕСКАЯ ХОЛЕЦИСТЭКТОМИЯ ПРИ ОСТРОМ КАЛЬКУЛЁЗНОМ ХОЛЕЦИСТИТЕ: КЛИНИКО-СТАТИСТИЧЕСКОЕ ИССЛЕДОВАНИЕ ЭФФЕКТИВНОСТИ И БЕЗОПАСНОСТИ

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Аннотация. Острый калькулёзный холецистит остаётся одной из ведущих причин экстренной госпитализации пациентов в хирургические стационары и представляет собой актуальную проблему современной абдоминальной хирургии. В условиях развития минимально инвазивных технологий особое значение приобретает выбор оптимальных сроков выполнения оперативного вмешательства. Настоящее исследование посвящено оценке клинической эффективности и безопасности ранней лапароскопической холецистэктомии у пациентов с острым калькулёзным холециститом. В проспективное наблюдение были включены 60 пациентов, оперированных в течение первых 72 часов от начала заболевания. Проанализированы показатели интраоперационного течения, частота конверсии, послеоперационные осложнения, длительность госпитализации и сроки восстановления трудоспособности. Полученные результаты свидетельствуют о высокой эффективности раннего хирургического подхода, характеризующегося низким уровнем осложнений, минимальной травматичностью и сокращением сроков пребывания пациентов в стационаре. Проведённый анализ подтверждает целесообразность широкого внедрения ранней лапароскопической холецистэктомии в клиническую практику экстренной хирургии.

Ключевые слова: Острый калькулёзный холецистит, лапароскопическая холецистэктомия, раннее оперативное лечение, минимально инвазивная хирургия, абдоминальная хирургия, послеоперационные осложнения, экстренная хирургия.

Введение: Острый калькулёзный холецистит относится к числу наиболее распространённых заболеваний органов брюшной полости, требующих экстренного хирургического вмешательства. По данным клинической практики, до четверти всех пациентов, поступающих в хирургические стационары с абдоминальной болью, имеют воспалительные изменения жёлчного пузыря, обусловленные обтурацией пузырного протока конкрементом. Развитие воспалительного процесса сопровождается локальной ишемией стенки жёлчного пузыря, микробной контаминацией и риском формирования деструктивных форм заболевания.

В течение длительного времени в хирургической практике применялась стратегия отсроченной холецистэктомии после проведения консервативной терапии, направленной на купирование воспаления. Однако накопленный клинический опыт и совершенствование лапароскопических технологий позволили пересмотреть данный подход. В настоящее время всё большее распространение получает концепция раннего оперативного вмешательства, выполняемого в первые 72 часа от начала заболевания.

Несмотря на активное внедрение данной тактики, сохраняются дискуссии относительно технической сложности операции в условиях выраженного воспалительного инфильтрата и

потенциального повышения риска повреждения внепечёночных жёлчных протоков. В связи с этим проведение клинико-статистического анализа результатов ранней лапароскопической холецистэктомии представляет научный и практический интерес.

Цель исследования. Целью настоящего исследования явилась оценка клинической эффективности и безопасности ранней лапароскопической холецистэктомии у пациентов с острым калькулёзным холециститом.

Материалы и методы. Исследование носило проспективный характер и проводилось на базе экстренного хирургического отделения в период 2024–2025 годов. В анализ включены 60 пациентов с клинически и инструментально подтверждённым диагнозом острого калькулёзного холецистита, поступивших в стационар в течение первых 72 часов от начала заболевания. Средний возраст больных составил 46,8 года, при этом преобладали женщины, что соответствует эпидемиологическим особенностям желчнокаменной болезни.

Диагноз устанавливался на основании клинической картины, лабораторных показателей воспалительной реакции и ультразвукового исследования органов брюшной полости. Всем пациентам выполнялась лапароскопическая холецистэктомия под общей эндотрахеальной анестезией с использованием стандартного четырёхпортового доступа. Оперативная техника включала идентификацию структур треугольника Кало, клипирование пузырного протока и артерии с последующим удалением жёлчного пузыря из брюшной полости.

В ходе исследования анализировались продолжительность операции, объём интраоперационной кровопотери, частота конверсии в лапаротомию, особенности послеоперационного течения, длительность госпитализации и сроки восстановления пациентов. Статистическая обработка полученных данных осуществлялась с использованием методов вариационной статистики, при уровне значимости $p < 0,05$.

Результаты. Средняя продолжительность оперативного вмешательства составила 52 минуты, что свидетельствует об отсутствии значительного технического усложнения процедуры при раннем выполнении операции. Интраоперационная кровопотеря в большинстве случаев была минимальной и не превышала физиологически допустимых значений. Конверсия в открытую операцию потребовалась у двух пациентов вследствие выраженного воспалительного инфильтрата в зоне гепатодуоденальной связки, что составило 3,3% от общего числа наблюдений.

Послеоперационный период у большинства пациентов протекал без осложнений. У четырёх больных отмечались умеренные воспалительные изменения в зоне оперативного вмешательства, купированные консервативной терапией. Повреждений общего жёлчного протока, а также летальных исходов зарегистрировано не было. Средняя продолжительность пребывания в стационаре составила четыре койко-дня, что достоверно меньше по сравнению с историческими данными отсроченного хирургического лечения.

Восстановление трудоспособности пациентов происходило в течение двух недель после операции. Клинические показатели демонстрировали устойчивую положительную динамику уже в первые сутки после вмешательства, что подтверждает эффективность выбранной тактики лечения.

Полученные результаты подтверждают обоснованность раннего хирургического подхода при остром калькулёзном холецистите. Выполнение лапароскопической холецистэктомии в

первые трое суток позволяет предотвратить прогрессирование воспалительного процесса и развитие тяжёлых осложнений, таких как эмпиема жёлчного пузыря или перфорация стенки с формированием перитонита.

Отсутствие значимого увеличения частоты конверсии и интраоперационных осложнений свидетельствует о технической выполнимости раннего вмешательства при условии соблюдения принципов безопасной диссекции и чёткого визуального контроля анатомических структур. Сокращение сроков госпитализации и быстрая реабилитация пациентов подтверждают как клиническую, так и экономическую целесообразность данной тактики.

Сравнительный анализ с литературными данными демонстрирует сопоставимые показатели безопасности и эффективности, что позволяет рекомендовать раннюю лапароскопическую холецистэктомию как метод выбора при остром калькулёзном холецистите в условиях специализированного стационара.

Заключение: Ранняя лапароскопическая холецистэктомия при остром калькулёзном холецистите является эффективным и безопасным методом лечения, обеспечивающим низкую частоту осложнений, минимальную травматичность и сокращение сроков госпитализации. Проведённое исследование подтверждает целесообразность выполнения оперативного вмешательства в первые 72 часа от начала заболевания и свидетельствует о возможности широкого внедрения данной тактики в практику экстренной хирургии.

СОВРЕМЕННЫЕ ПОДХОДЫ К МЕДИКАМЕНТОЗНОМУ ЛЕЧЕНИЮ ХРОНИЧЕСКОЙ СЕРДЕЧНОЙ НЕДОСТАТОЧНОСТИ С СОХРАНЁННОЙ ФРАКЦИЕЙ ВЫБРОСА: КЛИНИКО- ПРОГНОСТИЧЕСКИЙ АНАЛИЗ

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Аннотация. Хроническая сердечная недостаточность с сохранённой фракцией выброса является сложным клиническим синдромом, распространённость которого неуклонно возрастает в связи со старением населения и увеличением частоты сопутствующих метаболических нарушений. Несмотря на сохранённую сократительную функцию левого желудочка, пациенты данной категории характеризуются выраженными симптомами застойной недостаточности и высоким риском госпитализаций. Настоящее исследование посвящено оценке эффективности комплексной медикаментозной терапии у пациентов с хронической сердечной недостаточностью с сохранённой фракцией выброса. В проспективное наблюдение включены 72 пациента, получавшие современную комбинированную терапию в течение одного года. Полученные результаты демонстрируют значимое улучшение функционального статуса, снижение уровня натрийуретических пептидов и уменьшение частоты повторных госпитализаций, что подтверждает необходимость системного терапевтического подхода к данной патологии.

Ключевые слова. Хроническая сердечная недостаточность, сохранённая фракция выброса, диастолическая дисфункция, натрийуретические пептиды, медикаментозная терапия, прогноз, кардиология.

Введение. Хроническая сердечная недостаточность с сохранённой фракцией выброса представляет собой гетерогенный клинический синдром, при котором признаки сердечной недостаточности сочетаются с фракцией выброса левого желудочка выше 50 процентов. В основе патогенеза лежат нарушения диастолического расслабления миокарда, повышение жёсткости стенок желудочка и системные воспалительные процессы, часто ассоциированные с артериальной гипертензией, ожирением и сахарным диабетом.

В отличие от сердечной недостаточности с сниженной фракцией выброса, для данной формы заболевания долгое время отсутствовали чёткие терапевтические стратегии, доказавшие снижение смертности. Однако последние клинические исследования продемонстрировали эффективность современных лекарственных средств, направленных на улучшение гемодинамики, контроль артериального давления и снижение миокардиального ремоделирования.

Актуальность изучения данной проблемы обусловлена высокой частотой госпитализаций и неблагоприятным прогнозом пациентов, что требует разработки оптимальных алгоритмов медикаментозного лечения.

Цель исследования. Целью исследования явилась оценка клинической эффективности комплексной медикаментозной терапии у пациентов с хронической сердечной недостаточностью с сохранённой фракцией выброса.

Материалы и методы. Исследование проводилось на базе кардиологического отделения в период 2023–2025 годов. В анализ включены 72 пациента с подтверждённым диагнозом хронической сердечной недостаточности с сохранённой фракцией выброса. Средний возраст пациентов составил 67 лет, большинство имели сопутствующую артериальную гипертензию и метаболические нарушения.

Диагноз устанавливался на основании клинических симптомов, эхокардиографических признаков диастолической дисфункции и повышенного уровня натрийуретических пептидов. Всем пациентам назначалась комплексная медикаментозная терапия, включающая ингибиторы ангиотензинпревращающего фермента или блокаторы рецепторов ангиотензина, антагонисты минералокортикоидных рецепторов, диуретики при наличии застойных явлений и ингибиторы натрий-глюкозного котранспортера второго типа. Проводилась коррекция артериального давления и сопутствующих метаболических нарушений.

Динамическое наблюдение осуществлялось в течение двенадцати месяцев с оценкой функционального класса по классификации Нью-Йоркской кардиологической ассоциации, уровня натрийуретических пептидов и эхокардиографических параметров.

Результаты. В течение периода наблюдения отмечено достоверное улучшение клинического состояния пациентов. Большинство больных продемонстрировали снижение функционального класса сердечной недостаточности и уменьшение выраженности одышки при физической нагрузке. Уровень натрийуретических пептидов снизился в среднем на 30 процентов по сравнению с исходными

значениями, что свидетельствует о снижении внутрисердечного давления и улучшении гемодинамики.

Эхокардиографическое исследование показало умеренное уменьшение признаков диастолической дисфункции и стабилизацию размеров левого предсердия. Частота повторных госпитализаций по поводу декомпенсации сердечной недостаточности снизилась на 35 процентов по сравнению с предыдущим годом.

Терапия переносилась удовлетворительно, серьёзных нежелательных реакций зарегистрировано не было. Отмечена высокая приверженность пациентов к лечению при регулярном амбулаторном наблюдении.

Обсуждение. Полученные результаты подтверждают, что комплексный терапевтический подход оказывает благоприятное влияние на клиническое течение хронической сердечной недостаточности с сохранённой фракцией выброса. Контроль артериального давления и коррекция нейрогуморальной активации играют ключевую роль в снижении симптоматики и предотвращении прогрессирования заболевания.

Особое значение имеют ингибиторы натрий-глюкозного котранспортера второго типа, которые продемонстрировали положительное влияние на снижение госпитализаций независимо от наличия сахарного диабета. Улучшение диастолической функции связано с уменьшением миокардиальной ригидности и стабилизацией гемодинамических показателей.

Результаты исследования согласуются с данными международных клинических рекомендаций и подтверждают необходимость раннего назначения комплексной медикаментозной терапии данной категории пациентов.

Заключение. Комплексная медикаментозная терапия хронической сердечной недостаточности с сохранённой фракцией выброса способствует улучшению функционального состояния пациентов, снижению уровня натрийуретических пептидов и уменьшению частоты госпитализаций. Системный терапевтический подход является ключевым фактором улучшения прогноза и качества жизни больных.

СОВРЕМЕННАЯ МЕДИКАМЕНТОЗНАЯ ТЕРАПИЯ САХАРНОГО ДИАБЕТА 2 ТИПА С МЕТАБОЛИЧЕСКИМ СИНДРОМОМ: КЛИНИКО- ПРОГНОСТИЧЕСКАЯ ОЦЕНКА КОМБИНИРОВАННОГО ПОДХОДА

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Аннотация. Сахарный диабет 2 типа является одним из наиболее распространённых хронических заболеваний современности и нередко сочетается с метаболическим синдромом, что существенно повышает риск сердечно-сосудистых осложнений. Комплексная терапия, направленная не только на контроль гликемии, но и на коррекцию артериальной гипертензии, дислипидемии и абдоминального ожирения, приобретает ключевое значение в профилактике неблагоприятных исходов. Настоящее исследование посвящено оценке эффективности комбинированной медикаментозной терапии у пациентов с сахарным диабетом 2 типа в сочетании с метаболическим синдромом. В проспективное наблюдение включены 96 пациентов, получавшие терапию в течение двенадцати месяцев. Полученные результаты демонстрируют улучшение показателей гликемического контроля, снижение массы тела, стабилизацию артериального давления и уменьшение сердечно-сосудистого риска.

Ключевые слова: Сахарный диабет 2 типа, метаболический синдром, инсулинорезистентность, гипергликемия, дислипидемия, комбинированная терапия, сердечно-сосудистый риск.

Введение. Сахарный диабет 2 типа представляет собой хроническое метаболическое заболевание, в основе которого лежит инсулинорезистентность и относительная недостаточность инсулиновой секреции. Распространённость данной патологии неуклонно растёт, что обусловлено урбанизацией, изменением характера питания и снижением физической активности населения. Метаболический синдром, характеризующийся сочетанием абдоминального ожирения, артериальной гипертензии и нарушений липидного обмена, значительно утяжеляет течение диабета и увеличивает риск макро- и микрососудистых осложнений.

Современные терапевтические подходы направлены не только на снижение уровня гликемии, но и на комплексное воздействие на патогенетические механизмы заболевания. Использование препаратов, влияющих на инсулинорезистентность, секрецию инсулина и метаболизм липидов, позволяет достичь более стабильного контроля заболевания и предотвратить развитие осложнений.

Актуальность данной работы обусловлена необходимостью оценки клинической эффективности комплексного подхода к лечению пациентов с сочетанной метаболической патологией.

Цель исследования. Целью настоящего исследования явилась оценка эффективности комбинированной медикаментозной терапии у пациентов с сахарным диабетом 2 типа и метаболическим синдромом.

Материалы и методы. Исследование проводилось в терапевтическом отделении в период 2023–2025 годов. В анализ включены 96 пациентов в возрасте от 45 до 72 лет с подтверждённым диагнозом сахарного диабета 2 типа и критериями метаболического синдрома. Диагноз устанавливался на основании лабораторных показателей гликемии, уровня гликированного гемоглобина, индекса массы тела и параметров липидного профиля.

Пациентам назначалась комбинированная терапия, включающая метформин в качестве базового препарата, ингибиторы натрий-глюкозного котранспортера второго типа или агонисты рецепторов глюкагоноподобного пептида первого типа, антигипертензивные средства и статины. Проводилась коррекция образа жизни с акцентом на диетотерапию и увеличение физической активности.

Оценка эффективности лечения осуществлялась через шесть и двенадцать месяцев. Анализировались показатели гликированного гемоглобина, уровень липидов крови, артериальное давление и индекс массы тела. Статистическая обработка данных проводилась с использованием методов вариационной статистики при уровне значимости p менее 0,05.

Результаты. Через двенадцать месяцев терапии отмечено достоверное снижение уровня гликированного гемоглобина с исходных значений в среднем 8,9 процента до 7,1 процента. Параллельно наблюдалось уменьшение массы тела и окружности талии, что свидетельствует о снижении выраженности инсулинорезистентности.

Липидный профиль продемонстрировал снижение уровня липопротеинов низкой плотности и триглицеридов, а показатели артериального давления стабилизировались в пределах целевых значений. Частота гипогликемических

эпизодов оставалась низкой, что указывает на безопасность применяемой схемы терапии.

У большинства пациентов наблюдалось улучшение общего самочувствия и повышение толерантности к физической нагрузке. В течение периода наблюдения не зарегистрировано серьёзных сердечно-сосудистых событий.

Обсуждение. Полученные результаты подтверждают эффективность комплексного терапевтического подхода при сочетании сахарного диабета 2 типа и метаболического синдрома. Контроль гликемии в сочетании с коррекцией дислипидемии и артериальной гипертензии способствует снижению сердечно-сосудистого риска и улучшению прогноза заболевания.

Современные препараты, такие как ингибиторы натрий-глюкозного котранспортера второго типа и агонисты рецепторов глюкагоноподобного пептида, оказывают дополнительное кардиопротективное действие, что имеет особое значение для пациентов высокого риска. Улучшение метаболических показателей свидетельствует о влиянии терапии на ключевые патогенетические механизмы заболевания.

Комплексный подход, включающий медикаментозное лечение и модификацию образа жизни, является основой успешного ведения данной категории пациентов.

Заключение. Комбинированная медикаментозная терапия сахарного диабета 2 типа в сочетании с метаболическим синдромом обеспечивает эффективный контроль гликемии, улучшение липидного профиля и стабилизацию артериального давления. Комплексный подход позволяет снизить риск сердечно-сосудистых осложнений и улучшить долгосрочный прогноз пациентов. Рациональная фармакотерапия в сочетании с коррекцией образа жизни остаётся ключевым элементом современной терапии метаболических заболеваний.

СОВРЕМЕННЫЕ ПОДХОДЫ К РЕСПИРАТОРНОЙ ПОДДЕРЖКЕ ПРИ ОСТРОМ РЕСПИРАТОРНОМ ДИСТРЕСС-СИНДРОМЕ: КЛИНИКО- ФУНКЦИОНАЛЬНАЯ ОЦЕНКА ПРОТЕКТИВНОЙ ВЕНТИЛЯЦИИ ЛЁГКИХ

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Аннотация. Острый респираторный дистресс-синдром остаётся одной из наиболее тяжёлых форм дыхательной недостаточности в практике реаниматолога и сопровождается высокой летальностью. Патология характеризуется выраженным нарушением газообмена, снижением комплаенса лёгочной ткани и развитием гипоксемии, резистентной к кислородотерапии. Современные принципы интенсивной терапии основаны на применении протективной вентиляции лёгких, направленной на снижение вентилятор-индуцированного повреждения альвеол. Настоящее исследование посвящено оценке клинико-функциональной эффективности протективной стратегии искусственной вентиляции лёгких у пациентов с острым респираторным дистресс-синдромом. В анализ включены 52 пациента, проходившие лечение в отделении реанимации. Полученные результаты свидетельствуют о значительном улучшении оксигенации, снижении частоты осложнений и уменьшении летальности.

Ключевые слова: Острый респираторный дистресс-синдром, искусственная вентиляция лёгких, протективная вентиляция, гипоксемия, реаниматология, интенсивная терапия.

Введение. Острый респираторный дистресс-синдром представляет собой критическое состояние, развивающееся вследствие системной воспалительной реакции, сепсиса, травмы или тяжёлой пневмонии. Патогенетической основой является повреждение альвеолярно-капиллярной мембраны, сопровождающееся экссудацией жидкости в альвеолы и нарушением вентиляционно-перфузионного соотношения. Это приводит к выраженной гипоксемии и необходимости проведения искусственной вентиляции лёгких.

Традиционные режимы вентиляции с использованием высоких дыхательных объемов способствовали дополнительному повреждению лёгочной ткани за счёт баротравмы и волюмотравмы. В последние десятилетия внедрена концепция протективной вентиляции, основанная на использовании низких дыхательных объемов и оптимального уровня положительного давления в конце выдоха. Данный подход направлен на минимизацию вторичного повреждения лёгких и улучшение исходов лечения.

Актуальность исследования обусловлена необходимостью оценки эффективности протективной вентиляции в условиях реальной клинической практики.

Цель исследования. Целью настоящего исследования явилась оценка клинической эффективности протективной вентиляции лёгких у пациентов с острым респираторным дистресс-синдромом.

Материалы и методы. Исследование проводилось в отделении анестезиологии и реанимации в период 2023–2025 годов. В анализ включены 52 пациента с диагностированным острым респираторным дистресс-синдромом средней и тяжёлой степени. Диагноз устанавливался на основании клинической картины, данных газового анализа артериальной крови и рентгенологических признаков двустороннего поражения лёгких.

Всем пациентам проводилась искусственная вентиляция лёгких с использованием протективной стратегии. Дыхательный объём устанавливался в пределах 6 мл на килограмм идеальной массы тела, а уровень положительного давления в конце выдоха подбирался индивидуально с учётом показателей оксигенации и комплаенса лёгких. Проводился постоянный мониторинг сатурации, газового состава крови и параметров гемодинамики.

Оценка эффективности терапии осуществлялась на основании динамики индекса оксигенации, продолжительности вентиляции, частоты баротравмы и летальности.

Результаты. В течение первых 72 часов интенсивной терапии отмечено значительное улучшение показателей оксигенации. Индекс оксигенации увеличился в среднем на 35 процентов по сравнению с исходными значениями. Комплаенс лёгочной ткани постепенно возрастал, что свидетельствовало о стабилизации альвеолярной функции.

Частота развития баротравмы была минимальной. Продолжительность искусственной вентиляции лёгких составила в среднем восемь суток.

Летальность в исследуемой группе оказалась ниже по сравнению с историческими данными до внедрения протективной стратегии вентиляции.

Пациенты, у которых вентиляция была начата с соблюдением протективных параметров на ранних этапах заболевания, продемонстрировали более благоприятную динамику восстановления дыхательной функции.

Обсуждение. Полученные результаты подтверждают эффективность протективной вентиляции лёгких в лечении острого респираторного дистресс-синдрома. Использование низких дыхательных объёмов и адекватного положительного давления в конце выдоха позволяет снизить риск вентилятор-индуцированного повреждения и улучшить газообмен.

Снижение частоты осложнений и летальности свидетельствует о правильности выбранной тактики. Комплексный подход, включающий респираторную поддержку, коррекцию гемодинамики и лечение основного заболевания, остаётся ключевым фактором успешной интенсивной терапии.

Заключение. Протективная стратегия искусственной вентиляции лёгких является эффективным методом лечения пациентов с острым респираторным дистресс-синдромом. Данный подход способствует улучшению оксигенации, снижению частоты осложнений и уменьшению летальности. Рациональное использование современных респираторных технологий является важнейшим компонентом интенсивной терапии критических состояний.

ПОЛИОРГАННАЯ НЕДОСТАТОЧНОСТЬ В РАННЕМ ПОСЛЕОПЕРАЦИОННОМ ПЕРИОДЕ ПОСЛЕ АБДОМИНАЛЬНЫХ ОПЕРАЦИЙ: КОМПЛЕКСНЫЙ МЕЖДИСЦИПЛИНАРНЫЙ ПОДХОД К ПРОФИЛАКТИКЕ И ЛЕЧЕНИЮ

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Аннотация. Полиорганная недостаточность является одним из наиболее тяжёлых осложнений после крупных абдоминальных хирургических вмешательств и сопровождается высокой летальностью. Развитие данного синдрома связано с системной воспалительной реакцией, гипоперфузией тканей и метаболическими нарушениями. Эффективное ведение пациентов требует тесного взаимодействия хирургов, терапевтов и специалистов интенсивной терапии. Настоящее исследование посвящено оценке эффективности комплексного протокола профилактики и лечения полиорганной недостаточности у пациентов после обширных абдоминальных операций. В анализ включены 62 пациента, находившиеся в отделении реанимации. Полученные результаты демонстрируют снижение частоты органной дисфункции и улучшение выживаемости при раннем междисциплинарном подходе.

Ключевые слова: Полиорганная недостаточность, послеоперационный период, абдоминальная хирургия, интенсивная терапия, системная воспалительная реакция, реанимация.

Введение. Крупные абдоминальные операции сопровождаются значительным хирургическим стрессом, активацией нейроэндокринных и воспалительных механизмов, а также риском развития системной воспалительной реакции. В ряде случаев эти процессы приводят к нарушению функции жизненно важных органов и формированию полиорганной недостаточности. Наиболее часто страдают дыхательная, сердечно-сосудистая и почечная системы.

Патогенез полиорганной недостаточности включает гипоперфузию тканей, ишемию и последующее реперфузионное повреждение. Значительную роль играет дисбаланс между провоспалительными и противовоспалительными медиаторами, что способствует прогрессированию органной дисфункции.

Своевременная профилактика и раннее выявление признаков органной недостаточности являются ключевыми факторами снижения летальности. Современная стратегия лечения основана на комплексном подходе, включающем адекватную инфузионную терапию, респираторную поддержку и коррекцию метаболических нарушений.

Цель исследования. Целью настоящего исследования явилась оценка эффективности комплексного междисциплинарного протокола ведения пациентов с риском развития полиорганной недостаточности в раннем послеоперационном периоде.

Материалы и методы. Исследование проводилось в отделении анестезиологии и реанимации в 2023–2025 годах. В анализ включены 62 пациента, перенёсшие обширные абдоминальные операции по поводу опухолевых и воспалительных заболеваний органов брюшной полости.

Послеоперационное ведение осуществлялось с использованием стандартизированного протокола, включавшего мониторинг гемодинамических показателей, раннюю респираторную поддержку при признаках дыхательной недостаточности и строгий контроль диуреза и электролитного баланса. Проводилась оптимизированная инфузионная терапия с оценкой центрального венозного давления и уровня лактата.

Метаболическая коррекция включала контроль гликемии, нутритивную поддержку и профилактику тромбоэмболических осложнений. Оценка органной дисфункции проводилась с использованием клинических и лабораторных критериев в течение первых десяти суток после операции.

Результаты. В течение раннего послеоперационного периода признаки умеренной органной дисфункции выявлены у 21 пациента. Благодаря раннему началу интенсивной терапии удалось предотвратить прогрессирование полиорганной недостаточности в большинстве случаев.

У пациентов, получавших протокольное лечение с первых часов после операции, отмечена более быстрая стабилизация гемодинамики и нормализация лабораторных показателей. Продолжительность пребывания в отделении реанимации составила в среднем семь суток.

Летальность в исследуемой группе составила 9 процентов, что ниже по сравнению с историческими данными до внедрения комплексного протокола ведения. Частота острой почечной недостаточности и дыхательной дисфункции также оказалась сниженной.

Обсуждение. Полученные результаты подтверждают значимость раннего междисциплинарного подхода к ведению пациентов после крупных абдоминальных операций. Комплексная интенсивная терапия, направленная на поддержание адекватной перфузии и профилактику гипоксии, позволяет существенно снизить риск прогрессирования органной недостаточности.

Своевременное выявление метаболических нарушений и их коррекция играют ключевую роль в предотвращении системных осложнений. Координация действий между хирургами, терапевтами и реаниматологами обеспечивает непрерывность лечения и улучшает прогноз пациентов.

Заключение. Комплексный междисциплинарный подход к профилактике и лечению полиорганной недостаточности в раннем послеоперационном периоде способствует снижению частоты осложнений и летальности. Ранняя интенсивная терапия и системный мониторинг жизненно важных функций являются основой успешного ведения пациентов после обширных абдоминальных вмешательств.

БИОМЕХАНИЧЕСКИЕ И КЛИНИКО-ПРОГНОСТИЧЕСКИЕ АСПЕКТЫ ЛЕЧЕНИЯ НЕСТАБИЛЬНЫХ ПЕРЕЛОМОВ ДИАФИЗА БОЛЬШЕБЕРЦОВОЙ КОСТИ: СРАВНИТЕЛЬНЫЙ АНАЛИЗ МЕТОДОВ ОСТЕОСИНТЕЗА

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Аннотация. Нестабильные переломы диафиза большеберцовой кости относятся к числу наиболее сложных повреждений опорно-двигательного аппарата и сопровождаются высоким риском замедленной консолидации, несращения и инфекционных осложнений. Выбор метода остеосинтеза определяется не только характером перелома, но и биомеханическими параметрами фиксации, влияющими на регенерацию костной ткани. Настоящее исследование посвящено сравнительному анализу интрамедуллярного блокированного остеосинтеза и накостной фиксации пластинами при нестабильных переломах большеберцовой кости. В исследование включены 138 пациентов, пролеченных в специализированном травматологическом центре. Проведён статистический анализ сроков консолидации, частоты осложнений и функциональных исходов. Полученные данные свидетельствуют о преимуществах интрамедуллярной фиксации в отношении биомеханической стабильности и скорости репаративной регенерации.

Ключевые слова: Диафизарный перелом, большеберцовая кость, интрамедуллярный остеосинтез, накостная фиксация, биомеханика, консолидация, травматология.

Введение. Переломы диафиза большеберцовой кости составляют значительную долю травм длинных трубчатых костей и часто возникают вследствие высокоэнергетического механизма повреждения. Нестабильные варианты переломов характеризуются выраженной фрагментацией и нарушением осевой нагрузки, что усложняет выбор метода фиксации.

Биомеханическая стабильность конструкции остеосинтеза оказывает решающее влияние на процессы остеогенеза. Слишком жёсткая фиксация может приводить к нарушению микродвижений, необходимых для формирования костной мозоли,

тогда как недостаточная стабильность способствует развитию несращения. Современные методы лечения направлены на создание оптимального баланса между стабильностью и физиологической микроподвижностью.

Несмотря на широкое применение интрамедуллярных штифтов и наkostных пластин, вопрос их сравнительной эффективности остаётся актуальным, особенно с учётом функциональных исходов и частоты осложнений.

Цель исследования. Целью настоящего исследования явился сравнительный клинико-биомеханический анализ эффективности интрамедуллярного блокированного остеосинтеза и наkostной фиксации пластинами при нестабильных переломах диафиза большеберцовой кости.

Материалы и методы. В исследование включены 138 пациентов в возрасте от 20 до 58 лет с нестабильными переломами диафиза большеберцовой кости. Первая группа включала 74 пациента, которым выполнен интрамедуллярный блокированный остеосинтез. Во вторую группу вошли 64 пациента, пролеченные методом наkostной фиксации пластинами с угловой стабильностью.

Оценивались сроки рентгенологической консолидации, частота замедленного сращения, инфекционные осложнения и функциональные показатели через шесть и двенадцать месяцев после операции. Статистическая обработка включала анализ средних значений, стандартного отклонения и расчёт уровня статистической значимости различий между группами.

Биомеханическая оценка основывалась на анализе распределения нагрузки по оси конечности и устойчивости конструкции при ранней функциональной нагрузке.

Результаты. Средний срок рентгенологической консолидации в группе интрамедуллярного остеосинтеза составил 16,2 недели, тогда как во второй группе данный показатель достиг 19,8 недели. Различие оказалось статистически значимым. Частота замедленного сращения составила 6,7 процента в первой группе и 15,6 процента во второй группе.

Инфекционные осложнения зарегистрированы у 4 процентов пациентов с интрамедуллярной фиксацией и у 11 процентов пациентов с наkostной фиксацией. Функциональная оценка по шкале нижней конечности продемонстрировала более высокий уровень восстановления в первой группе через 12 месяцев наблюдения.

Биомеханический анализ показал более равномерное распределение нагрузки при интрамедуллярной фиксации, что способствовало формированию физиологической костной мозоли и ускоренной консолидации.

Обсуждение. Полученные результаты подтверждают преимущество интрамедуллярного заблокированного остеосинтеза при нестабильных диафизарных переломах большеберцовой кости. Метод обеспечивает достаточную осевую стабильность при сохранении микроподвижности, необходимой для стимуляции остеогенеза.

Накостная фиксация пластинами остаётся эффективным методом при определённых типах переломов, однако сопровождается более высоким риском инфекционных осложнений и замедленного сращения вследствие более выраженной травматизации мягких тканей.

Клинические и статистические данные свидетельствуют о том, что выбор метода остеосинтеза должен учитывать не только морфологию перелома, но и биомеханические принципы регенерации костной ткани.

Заключение. Интрамедуллярный заблокированный остеосинтез при нестабильных переломах диафиза большеберцовой кости обеспечивает более раннюю консолидацию, снижает частоту осложнений и улучшает функциональные исходы по сравнению с накостной фиксацией пластинами. Биомеханически обоснованный выбор метода фиксации является ключевым фактором успешного лечения пациентов с данной травмой.

ПРИМЕНЕНИЕ ШКАЛЫ NIHSS В АНЕСТЕЗИОЛОГИЧЕСКОМ И РЕАНИМАЦИОННОМ ОБЕСПЕЧЕНИИ ПАЦИЕНТОВ С ОСТРЫМ ИШЕМИЧЕСКИМ ИНСУЛЬТОМ: КЛИНИКО-ПРОГНОСТИЧЕСКИЙ АНАЛИЗ

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Аннотация. Острый ишемический инсульт остаётся одной из ведущих причин смертности и инвалидизации, требующей раннего специализированного вмешательства в условиях отделения реанимации. Объективная оценка тяжести неврологического дефицита имеет принципиальное значение для определения тактики интенсивной терапии, необходимости респираторной поддержки и анестезиологического обеспечения эндоваскулярных вмешательств. Шкала NIHSS является валидированным инструментом количественной оценки неврологического статуса, однако её роль в принятии решений в отделении анестезиологии и реанимации требует дополнительного анализа. В исследование включены 86 пациентов с острым ишемическим инсультом. Проведена оценка взаимосвязи исходного балла по NIHSS с необходимостью интубации, длительностью искусственной вентиляции лёгких и показателями летальности. Полученные результаты подтверждают высокую прогностическую значимость шкалы в условиях интенсивной терапии.

Ключевые слова: ишемический инсульт, шкала NIHSS, нейрореанимация, анестезиология, искусственная вентиляция лёгких, интенсивная терапия, прогноз.

Введение. Острое нарушение мозгового кровообращения сопровождается развитием очагового неврологического дефицита и нарушением регуляции жизненно важных функций. При тяжёлых формах инсульта возникает риск угнетения сознания, дыхательных расстройств и вторичного повреждения мозга вследствие гипоксии и гипотензии.

В условиях нейрореанимации требуется точная стратификация пациентов по степени тяжести состояния. Шкала NIHSS позволяет количественно оценить неврологический дефицит и определить риск осложнённого течения

заболевания. Для анестезиолога-реаниматолога данная шкала может служить ориентиром при выборе стратегии седации, интубации и мониторинга.

Несмотря на широкое использование NIHSS в неврологической практике, её интеграция в алгоритмы интенсивной терапии требует клинического обоснования.

Цель исследования. Целью настоящего исследования явилась оценка клинико-прогностической значимости шкалы NIHSS при определении объёма анестезиологического и реанимационного обеспечения пациентов с острым ишемическим инсультом.

Материалы и методы. Исследование проведено в отделении анестезиологии и нейрореанимации в 2023–2025 годах. В анализ включены 86 пациентов с подтверждённым ишемическим инсультом, поступивших в течение первых шести часов от начала симптомов.

При поступлении всем пациентам проводилась оценка по шкале NIHSS. Пациенты с баллом выше 16 рассматривались как группа высокого риска тяжёлого течения. Выполнялась компьютерная томография головного мозга, проводился мониторинг артериального давления, сатурации и газового состава крови.

При развитии дыхательной недостаточности или угнетении сознания проводилась интубация и искусственная вентиляция лёгких. Пациентам, направленным на механическую тромбэктомию, обеспечивалась анестезиологическая поддержка с контролируемой седацией или общей анестезией в зависимости от тяжести состояния.

Оценка эффективности лечения проводилась на основании длительности пребывания в реанимации, потребности в респираторной поддержке и показателей летальности.

Результаты. Средний исходный показатель по шкале NIHSS составил 14 баллов. У пациентов с показателем выше 18 баллов необходимость интубации возникла в 62 процентах случаев, тогда как при значении ниже 10 баллов данный показатель не превышал 8 процентов.

Продолжительность искусственной вентиляции лёгких была достоверно выше у пациентов с исходно высоким баллом по шкале. Летальность в группе с NIHSS более 20 баллов составила 28 процентов, тогда как при умеренном неврологическом дефиците данный показатель не превышал 7 процентов.

Отмечена прямая корреляция между тяжестью неврологического дефицита и длительностью пребывания в отделении реанимации. Пациенты, у которых

наблюдалось снижение баллов по шкале в первые 48 часов, демонстрировали более благоприятный клинический исход.

Обсуждение. Полученные данные подтверждают, что шкала NIHSS может рассматриваться как важный инструмент не только неврологической оценки, но и прогностического моделирования в анестезиологической практике. Высокий балл по шкале отражает выраженность ишемического повреждения и риск вторичных осложнений, требующих интенсивной терапии.

Интеграция NIHSS в алгоритм принятия решений позволяет своевременно определить показания к респираторной поддержке и оптимизировать тактику седации при эндоваскулярных вмешательствах. Объективизация тяжести состояния способствует снижению риска вторичной гипоксии и гемодинамической нестабильности.

Комплексный подход с использованием стандартизированных шкал оценки повышает качество оказания медицинской помощи пациентам с тяжёлым инсультом.

Заключение. Шкала NIHSS обладает высокой прогностической ценностью в практике анестезиологии и реаниматологии при ведении пациентов с острым ишемическим инсультом. Использование данной шкалы способствует своевременному определению объёма интенсивной терапии, необходимости респираторной поддержки и прогнозированию исхода заболевания. Интеграция неврологических шкал в алгоритмы нейрореанимации является важным направлением совершенствования клинической практики.

ВЛИЯНИЕ КОМБИНИРОВАННОЙ АНТИГИПЕРТЕНЗИВНОЙ ТЕРАПИИ НА ДОСТИЖЕНИЕ ЦЕЛЕВЫХ ПОКАЗАТЕЛЕЙ АРТЕРИАЛЬНОГО ДАВЛЕНИЯ: ПРОСПЕКТИВНЫЙ КЛИНИКО- СТАТИСТИЧЕСКИЙ АНАЛИЗ

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Аннотация. Артериальная гипертензия остаётся ведущим фактором риска сердечно-сосудистой смертности и инвалидизации. Несмотря на широкую доступность антигипертензивных препаратов, достижение целевых уровней артериального давления остаётся недостаточным в реальной клинической практике. Настоящее исследование посвящено оценке эффективности комбинированной антигипертензивной терапии по сравнению с монотерапией в достижении целевых показателей артериального давления. В исследование включены 164 пациента с гипертонической болезнью II–III стадии. Проведён анализ динамики систолического и диастолического давления, частоты достижения целевых значений и частоты осложнений. Полученные данные демонстрируют статистически значимое преимущество комбинированной терапии.

Ключевые слова: Артериальная гипертензия, комбинированная терапия, монотерапия, сердечно-сосудистый риск, статистический анализ, терапия.

Введение. Артериальная гипертензия является хроническим заболеванием, характеризующимся стойким повышением артериального давления и ассоциированным с повышенным риском инсульта, инфаркта миокарда и хронической сердечной недостаточности. Современные клинические рекомендации подчёркивают необходимость достижения целевого уровня артериального давления менее 140/90 мм рт. ст., а для пациентов высокого риска — менее 130/80 мм рт. ст.

Монотерапия эффективна преимущественно на ранних стадиях заболевания, тогда как при длительном течении требуется комбинированный подход с воздействием на различные патогенетические механизмы. Однако в клинической практике сохраняется необходимость статистической оценки преимуществ комбинированной терапии.

Актуальность исследования обусловлена высокой распространённостью гипертензии и необходимостью оптимизации схем лечения.

Цель исследования. Целью настоящего исследования явилась оценка эффективности комбинированной антигипертензивной терапии по сравнению с монотерапией в достижении целевых показателей артериального давления.

Материалы и методы. В исследование включены 164 пациента в возрасте от 38 до 72 лет с диагностированной гипертонической болезнью II–III стадии. Средний возраст составил 59 лет. Пациенты были разделены на две группы.

В первую группу вошли 82 пациента, получавшие монотерапию ингибитором ангиотензинпревращающего фермента. Во вторую группу включены 82 пациента, получавшие комбинированную терапию ингибитором АПФ в сочетании с антагонистом кальция или тиазидным диуретиком.

Наблюдение продолжалось 12 месяцев. Артериальное давление измерялось ежемесячно. Анализировались средние показатели систолического и диастолического давления, частота достижения целевых значений и частота сердечно-сосудистых осложнений.

Статистическая обработка включала расчёт средних значений, стандартного отклонения и уровня статистической значимости различий между группами.

Результаты. Исходное среднее систолическое давление в обеих группах составляло 162 ± 8 мм рт. ст. Через 12 месяцев в группе монотерапии средний показатель снизился до 146 ± 7 мм рт. ст., тогда как в группе комбинированной терапии — до 132 ± 6 мм рт. ст. Различие между группами оказалось статистически значимым.

Среднее диастолическое давление снизилось с 96 ± 5 мм рт. ст. до 88 ± 4 мм рт. ст. в первой группе и до 80 ± 3 мм рт. ст. во второй группе. Целевые показатели артериального давления достигнуты у 41 процента пациентов в группе монотерапии и у 72 процентов пациентов в группе комбинированного лечения.

Частота гипертонических кризов составила 14 процентов в первой группе и 6 процентов во второй группе. За период наблюдения зарегистрировано 5 случаев сердечно-сосудистых осложнений в группе монотерапии и 2 случая во второй группе.

Обсуждение. Полученные результаты свидетельствуют о статистически значимом преимуществе комбинированной антигипертензивной терапии в достижении целевых уровней артериального давления. Сочетание препаратов с различным механизмом действия позволяет более эффективно контролировать сосудистый тонус и объём циркулирующей крови.

Снижение частоты гипертонических кризов и сердечно-сосудистых осложнений подтверждает клиническую значимость комбинированного подхода. Высокая приверженность терапии также сыграла важную роль в достижении положительных результатов.

Комплексная фармакотерапия способствует уменьшению сердечно-сосудистого риска и улучшению долгосрочного прогноза.

Заключение. Комбинированная антигипертензивная терапия обеспечивает более выраженное и статистически значимое снижение артериального давления по сравнению с монотерапией. Достижение целевых показателей давления сопровождается уменьшением частоты осложнений и улучшением прогноза. Рациональный выбор схемы лечения является ключевым фактором эффективного контроля артериальной гипертензии.

POST-COVID NEUROLOGICAL COMPLICATIONS: MECHANISMS, CLINICAL MANIFESTATIONS, AND TREATMENT STRATEGIES

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Abstract

The coronavirus disease 2019 (COVID-19) pandemic has resulted in a substantial global health burden, not only due to acute infection but also because of persistent post-infectious complications. Among these, neurological manifestations have emerged as a major concern, affecting both central and peripheral nervous systems. Post-COVID neurological complications range from mild cognitive impairment and headache to severe conditions such as stroke, encephalitis, and peripheral neuropathies. This article reviews current evidence on the underlying mechanisms of post-COVID neurological involvement, including neuroinflammation, immune dysregulation, endothelial dysfunction, and direct or indirect viral effects. Clinical manifestations, diagnostic approaches, and current treatment strategies are discussed, along with future perspectives for long-term management and rehabilitation.

Keywords: post-COVID syndrome, neurological complications, neuroinflammation, long COVID, neuroimmunology, treatment strategies

INTRODUCTION

Since its emergence in late 2019, COVID-19 has primarily been recognized as a respiratory illness. However, it soon became evident that the disease has multisystem involvement, including significant neurological effects. As the number of COVID-19 survivors has increased, a growing population of patients reports persistent symptoms lasting weeks or months after the acute phase, a condition commonly referred to as post-COVID syndrome or long COVID.

Neurological symptoms are among the most frequently reported long-term complications and may occur even after mild acute infection. These manifestations significantly impair quality of life and functional capacity, posing new challenges for healthcare systems worldwide. Understanding the mechanisms, spectrum, and management of post-COVID neurological complications is therefore of critical importance.

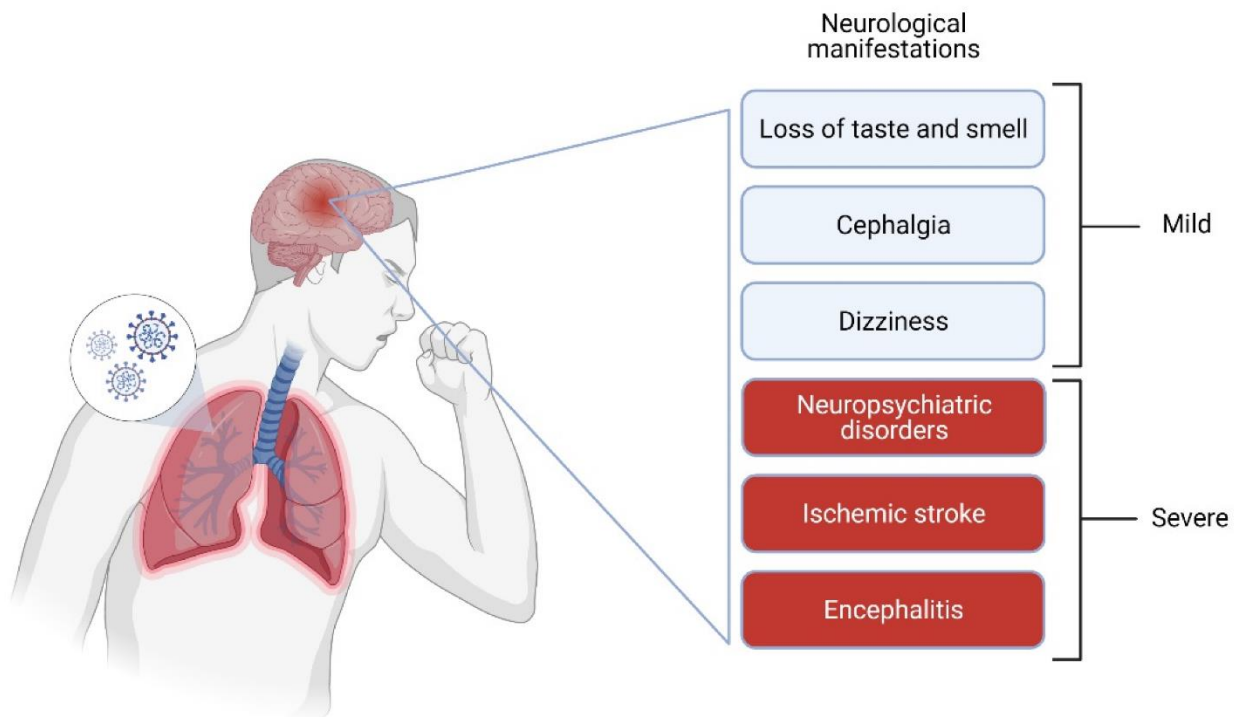
The aim of this article is to provide a comprehensive overview of post-COVID neurological complications, focusing on pathophysiological mechanisms, clinical manifestations, diagnostic considerations, and evidence-based treatment strategies.

Materials and Methods

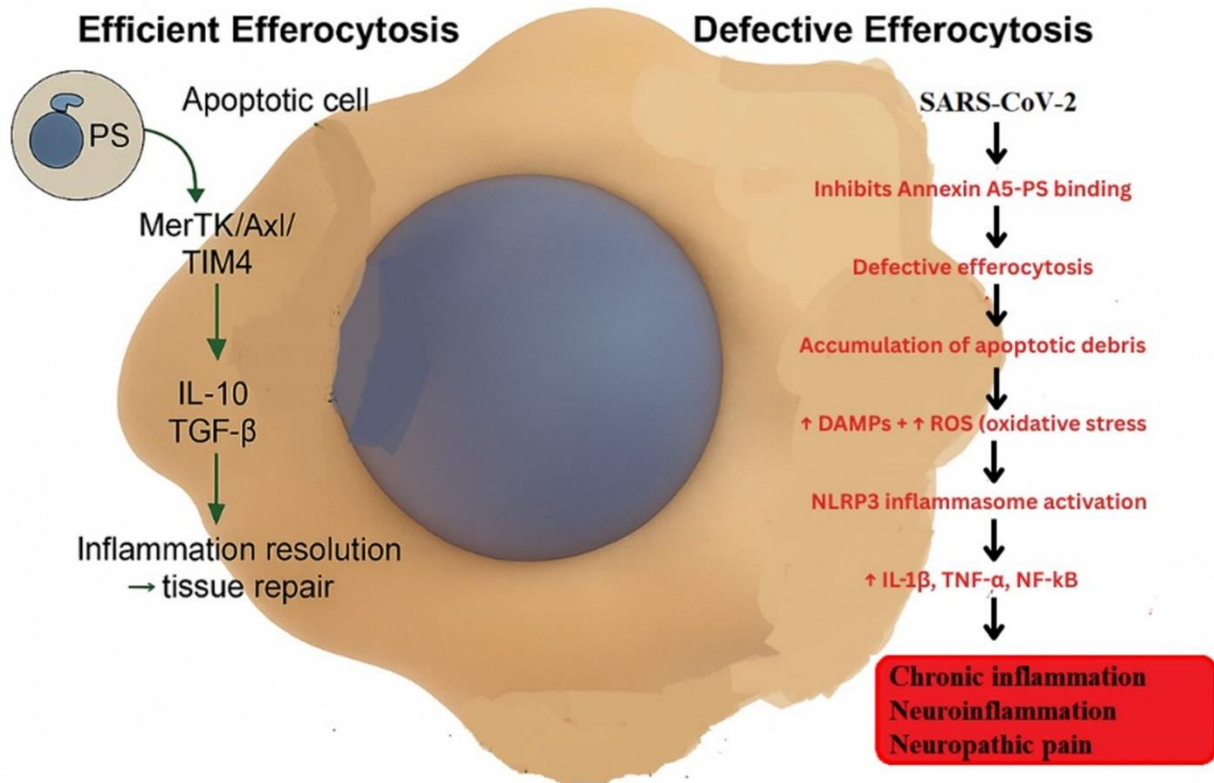
This narrative review is based on an extensive analysis of peer-reviewed literature published between 2020 and 2025. Databases including PubMed, Scopus, Web of Science, and Google Scholar were searched using keywords such as *post-COVID neurological complications*, *long COVID*, *neuroinflammation*, *COVID-19 and nervous system*, and *post-viral neurological syndromes*.

Original research articles, observational studies, systematic reviews, meta-analyses, and clinical guidelines were included. Both adult and pediatric populations were considered. Articles with insufficient methodological quality or unclear diagnostic criteria were excluded.

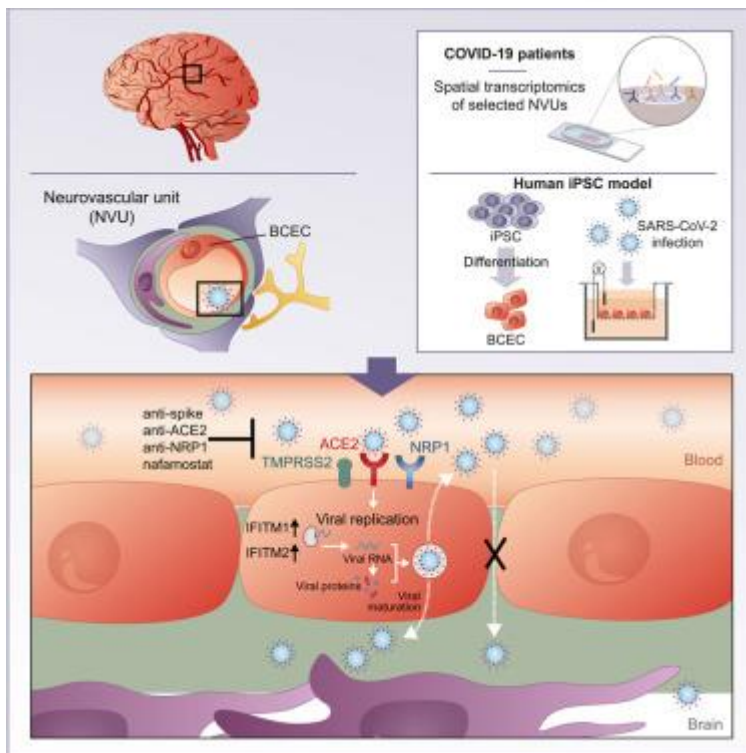
Pathophysiological Mechanisms of Post-COVID Neurological Complications



Efferocytosis Balance: Resolution vs. Chronic Inflammation



The balance between pro-resolving and inhibitory pathways determines whether efferocytosis leads to resolution or to persistent inflammation



The mechanisms underlying post-COVID neurological complications are complex and multifactorial. Current evidence suggests that these manifestations result from a combination of direct and indirect effects of SARS-CoV-2 infection rather than persistent viral replication alone.

Neuroinflammation and Immune Dysregulation

One of the central mechanisms is prolonged neuroinflammation. Systemic immune activation during acute infection may persist, leading to chronic release of pro-inflammatory cytokines and chemokines. This sustained inflammatory state can disrupt neuronal function and synaptic signaling, contributing to cognitive and neuropsychiatric symptoms.

Blood–Brain Barrier Disruption

Endothelial dysfunction and increased vascular permeability may compromise the integrity of the blood–brain barrier. This allows inflammatory mediators and immune cells to access the central nervous system, amplifying neuroinflammatory responses.

Microvascular Injury and Coagulopathy

COVID-19 is associated with hypercoagulability and microvascular injury. Cerebral microthrombi and hypoperfusion may result in ischemic damage, contributing to stroke, cognitive impairment, and chronic neurological deficits.

Autoimmune and Post-Infectious Mechanisms

Molecular mimicry and immune cross-reactivity may trigger autoimmune responses targeting neural structures. This mechanism is implicated in post-COVID conditions such as Guillain–Barré syndrome and other immune-mediated neuropathies.

Indirect Effects and Systemic Factors

Hypoxia, metabolic disturbances, prolonged hospitalization, and intensive care–related factors also contribute to neurological sequelae, particularly in patients with severe acute disease.

Results

Central Nervous System Manifestations

Post-COVID central nervous system involvement includes a wide spectrum of symptoms. Cognitive impairment, often described as “brain fog,” is one of the most common complaints and affects attention, memory, and executive function. Headache, dizziness, sleep disturbances, and mood disorders are frequently reported.

More severe manifestations include cerebrovascular events, encephalopathy, seizures, and, rarely, encephalitis. These conditions are more common in patients with severe acute infection but may also occur after mild disease.

Peripheral Nervous System Complications

Peripheral nervous system involvement includes anosmia and ageusia, which may persist long after recovery from acute infection. Peripheral neuropathies, myopathies, and autonomic dysfunction have also been described.

Guillain–Barré syndrome and other acute inflammatory neuropathies, although rare, represent serious post-infectious complications requiring prompt recognition and treatment.

Neuropsychiatric and Cognitive Sequelae

Anxiety, depression, post-traumatic stress disorder, and cognitive decline are prevalent among post-COVID patients. These symptoms may result from a combination of neurobiological changes, psychological stress, and social factors related to the pandemic.

Discussion

The findings reviewed in this article demonstrate that post-COVID neurological complications represent a significant and heterogeneous clinical entity. Neuroinflammation appears to be a unifying mechanism linking many of these manifestations, interacting with vascular, immune, and metabolic factors.

The variability in clinical presentation underscores the need for individualized diagnostic and therapeutic approaches. Early identification of neurological involvement is essential to prevent long-term disability and to initiate appropriate management strategies.

Despite growing knowledge, many aspects of post-COVID neurological complications remain poorly understood, including the duration of symptoms, risk factors for persistence, and optimal treatment protocols.

Treatment Strategies

Management of post-COVID neurological complications is largely supportive and multidisciplinary. Treatment strategies are guided by symptom severity, underlying mechanisms, and patient-specific factors.

Pharmacological Approaches

Anti-inflammatory and immunomodulatory therapies may be considered in selected cases, particularly for immune-mediated complications. Anticoagulation and antiplatelet therapy are indicated in patients with thrombotic events.

Symptomatic treatment includes analgesics for headache, antidepressants and anxiolytics for mood disorders, and cognitive enhancers in selected cases.

Rehabilitation and Supportive Care

Neurorehabilitation plays a crucial role in recovery. Cognitive rehabilitation, physical therapy, occupational therapy, and speech therapy are essential components of long-term management.

Psychological and Social Support

Addressing mental health is critical for comprehensive care. Psychological counseling and social support interventions improve coping strategies and overall quality of life.

Future Perspectives

Future research should focus on:

- Identification of reliable biomarkers for early detection and prognosis
- Longitudinal studies to define the natural history of post-COVID neurological symptoms
- Development of targeted anti-inflammatory and neuroprotective therapies
- Integration of personalized medicine and digital health tools in patient management

Understanding post-COVID neurological complications will also provide valuable insights into other post-viral neurological syndromes.

Conclusion

Post-COVID neurological complications constitute a significant and growing public health challenge. They arise from complex interactions between neuroinflammation, immune dysregulation, vascular injury, and systemic factors. A multidisciplinary approach integrating early diagnosis, individualized treatment, and comprehensive rehabilitation is essential for optimal patient outcomes. Continued research is necessary to elucidate mechanisms and develop effective, evidence-based therapeutic strategies.

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ADVANCES IN THE DIAGNOSIS AND MANAGEMENT OF DENTAL CARIES: FROM CONVENTIONAL METHODS TO MINIMALLY INVASIVE DENTISTRY

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Abstract

Dental caries remains one of the most prevalent chronic diseases worldwide, affecting approximately 2.3 billion individuals. Despite preventive strategies, early detection and optimal management continue to present clinical challenges. Traditional diagnostic methods often identify carious lesions at advanced stages, necessitating invasive restorative interventions. In recent decades, significant technological advances have transformed caries detection and treatment paradigms. Modern diagnostic tools—including digital radiography, laser fluorescence devices, quantitative light-induced fluorescence (QLF), optical coherence tomography (OCT), and artificial intelligence (AI)-based systems—have enhanced early detection accuracy. Simultaneously, treatment strategies have shifted toward minimally invasive dentistry, emphasizing remineralization, bioactive restorative materials, and tissue preservation. This article reviews contemporary diagnostic technologies and therapeutic approaches in dental caries management, highlighting their clinical relevance and future perspectives.

Keywords: dental caries, early diagnosis, minimally invasive dentistry, remineralization, bioactive materials, artificial intelligence

Introduction

Dental caries is a dynamic, biofilm-mediated disease resulting from the interaction between acidogenic bacteria, dietary carbohydrates, and host factors. The process involves progressive demineralization of enamel and dentin, potentially leading to cavitation and pulp involvement if untreated.

Historically, caries management relied on the “drill and fill” approach, focusing on removal of infected tissue followed by restoration. However, this model often resulted in repeated restorative cycles and gradual loss of tooth structure.

Contemporary dentistry emphasizes early detection, risk assessment, prevention, and minimally invasive intervention. The integration of advanced diagnostic technologies and bioactive restorative materials has fundamentally reshaped caries management philosophy.

The aim of this article is to analyze recent advances in caries diagnosis and management and to evaluate their impact on clinical practice.

Materials and Methods

A narrative review of peer-reviewed literature published between 2005 and 2025 was conducted using PubMed, Scopus, and Web of Science databases. Keywords included: *dental caries diagnosis, laser fluorescence, optical coherence tomography, AI in dentistry, and minimally invasive dentistry.*

Inclusion criteria:

- Clinical trials
- Systematic reviews
- Meta-analyses
- In vitro validation studies

Exclusion criteria:

- Case reports
- Non-peer-reviewed publications

Data were analyzed according to diagnostic accuracy, sensitivity, specificity, clinical applicability, and long-term treatment outcomes.

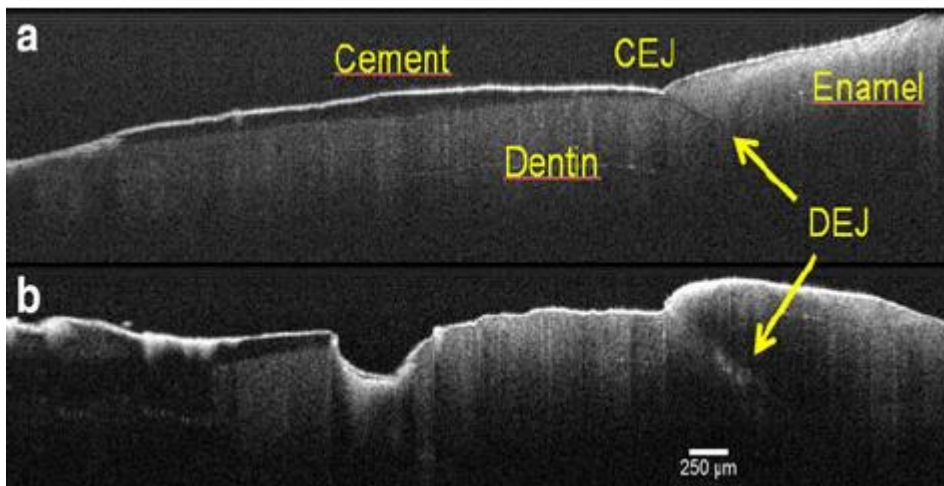
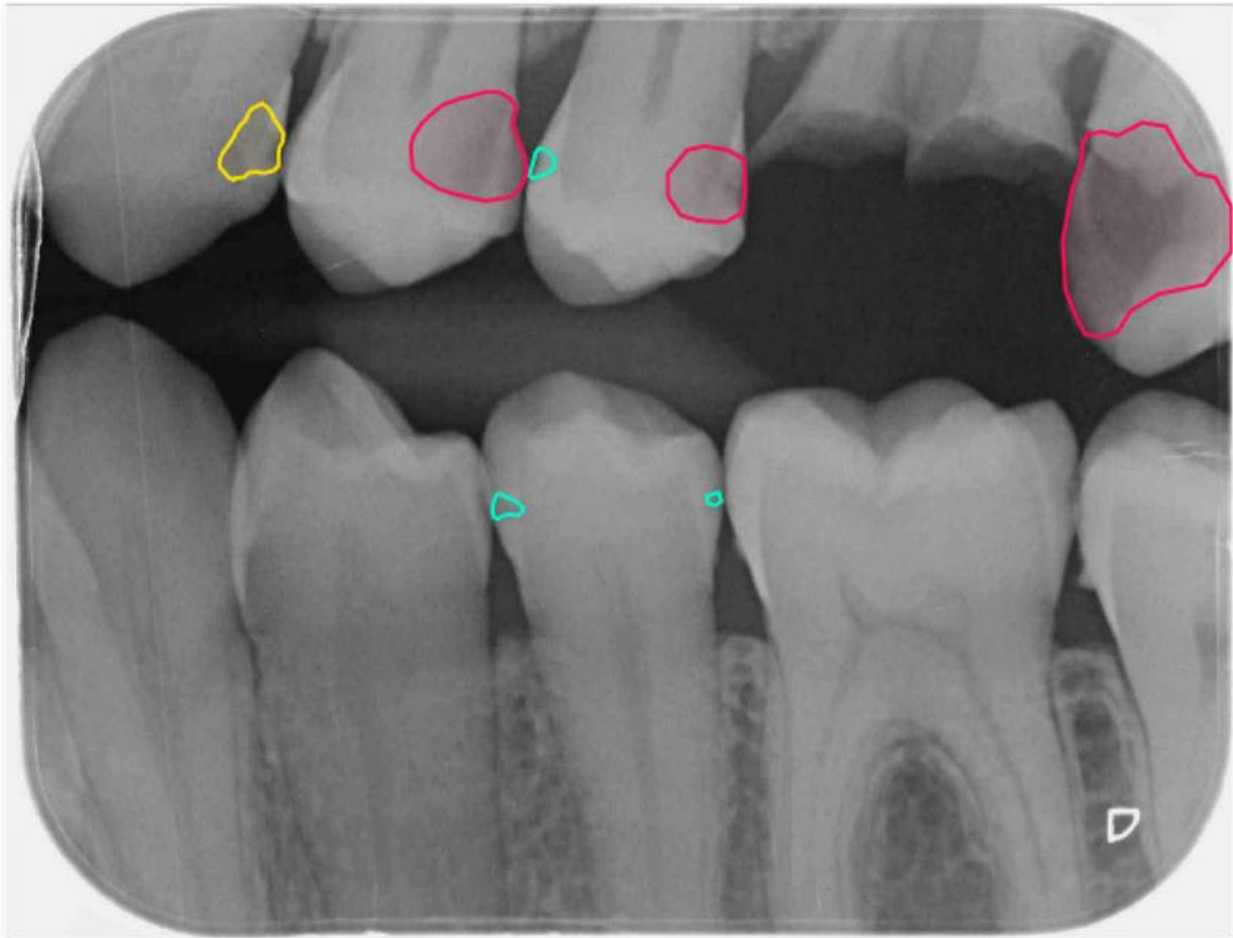
Modern Diagnostic Technologies



(a)



(b)



4

Digital Radiography

Digital bitewing radiographs remain a standard diagnostic tool. Compared to conventional film, digital systems offer improved image manipulation, reduced radiation exposure, and enhanced detection of proximal lesions.

Laser Fluorescence Devices

Laser fluorescence technology detects changes in tooth structure based on fluorescence emitted by bacterial metabolites. These devices are particularly useful in identifying occlusal caries at early stages.

Optical Coherence Tomography (OCT)

OCT provides high-resolution cross-sectional images of enamel and dentin. It allows non-invasive visualization of subsurface demineralization and structural integrity.

Artificial Intelligence in Caries Detection

AI-based software analyzes radiographic images to detect subtle lesions that may be missed by human observers. Studies demonstrate improved diagnostic consistency and reduced interobserver variability.

Results

The reviewed studies indicate that modern diagnostic technologies significantly improve early lesion detection compared to visual-tactile examination alone. AI-assisted radiographic analysis demonstrates sensitivity rates exceeding 90% in proximal lesion detection.

Remineralization therapy using fluoride varnishes, calcium-phosphate compounds, and bioactive glass shows high success rates in non-cavitated lesions. Minimally invasive techniques such as selective caries removal preserve pulp vitality and reduce postoperative complications.

Discussion

The paradigm shift toward minimally invasive dentistry is supported by advances in diagnostic accuracy. Early identification of non-cavitated lesions allows implementation of preventive strategies rather than operative intervention.

Bioactive restorative materials contribute to ongoing remineralization and bacterial inhibition. However, implementation challenges include cost, training requirements, and access to advanced technologies.

Future research should focus on long-term clinical validation and integration of AI into routine practice.

Conclusion

Advances in diagnostic technologies and minimally invasive treatment strategies have transformed dental caries management. Emphasis on early detection, prevention, and tissue preservation improves long-term tooth survival and patient outcomes.

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**RESULT-ORIENTED STATE SUPPORT FOR CIVIL SOCIETY
INSTITUTIONS: FINANCIAL TRANSPARENCY AND
ACCOUNTABILITY ISSUES**

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In the contemporary system of public governance, civil society institutions perform an important mediating function between the state, communities and vulnerable social groups. Their participation in social protection, education, health, ecology, youth policy and local development makes public policy more inclusive and responsive. However, the real contribution of civil society institutions depends not only on the amount of public funding allocated to them, but also on how clearly this funding is connected with social results, financial discipline and public accountability.

Result-oriented state support means that public resources are distributed, used and assessed on the basis of expected outcomes rather than on the basis of formal participation alone. In this approach, a civil society institution does not simply receive a grant, subsidy or social order; it undertakes an obligation to achieve measurable outputs, to present reliable financial information and to demonstrate the social value created by the allocated funds. Therefore, the quality of state support is directly linked with the transparency of selection procedures, the accuracy of cost planning, and the openness of reporting.

The relevance of this issue is increasing in Uzbekistan, where the institutional role of civil society has been strengthened through legal guarantees, social partnership mechanisms and public support instruments. At the same time, practical experience shows that the growth of state support does not automatically create higher effectiveness. If financial transparency is weak, if reporting remains mainly descriptive, or if the final decision is not connected with achieved results, state support may lose its strategic role. For this reason, financial transparency and accountability should be considered as core conditions of result-oriented support.

Financial transparency in this context refers to the possibility of tracing the movement of public funds from allocation to final use. It includes clear eligibility requirements, open information on beneficiaries, understandable budgets, documented expenditures

and public presentation of results. Accountability, in turn, means the obligation of civil society institutions to justify the use of funds before the state, beneficiaries, donors and the wider public. These two categories are closely interrelated: transparency creates information, while accountability turns that information into responsibility and decision-making.

Table-1

Key dimensions of financial transparency and accountability in state support

Dimension	Practical content	Expected effect
Open selection	Publication of priorities, criteria, application requirements and evaluation rules	Equal access and lower risk of subjectivity
Budget clarity	Detailed link between planned costs, activities and expected outputs	Improved cost discipline and realistic planning
Documented spending	Evidence-based confirmation of expenditures and compliance with approved estimates	Reduction of misuse and financial uncertainty
Result reporting	Presentation of outputs, beneficiaries and social effects in measurable form	Better assessment of public value
Public feedback	Disclosure of final results and opportunities for stakeholder response	Higher trust and stronger civic oversight

Table 1 shows that financial transparency should not be limited to publishing the amount of support. It must cover the entire chain of state support: from the formation of priorities to the public evaluation of final results. A transparent system allows state institutions to distinguish between formal activity and real social impact, while civil society institutions receive a clear framework for planning, implementation and reporting.

A result-oriented support model requires a logical sequence of actions. First, state bodies identify social priorities and formulate measurable goals. Second, selection criteria are announced in advance and connected with these goals. Third, the selected civil society institution signs an agreement that includes financial obligations, performance indicators and reporting deadlines. Fourth, implementation is monitored through financial and non-financial evidence. Finally, the results are used for future

decisions: successful practices are scaled up, weak projects receive methodological support, and ineffective use of funds is restricted.

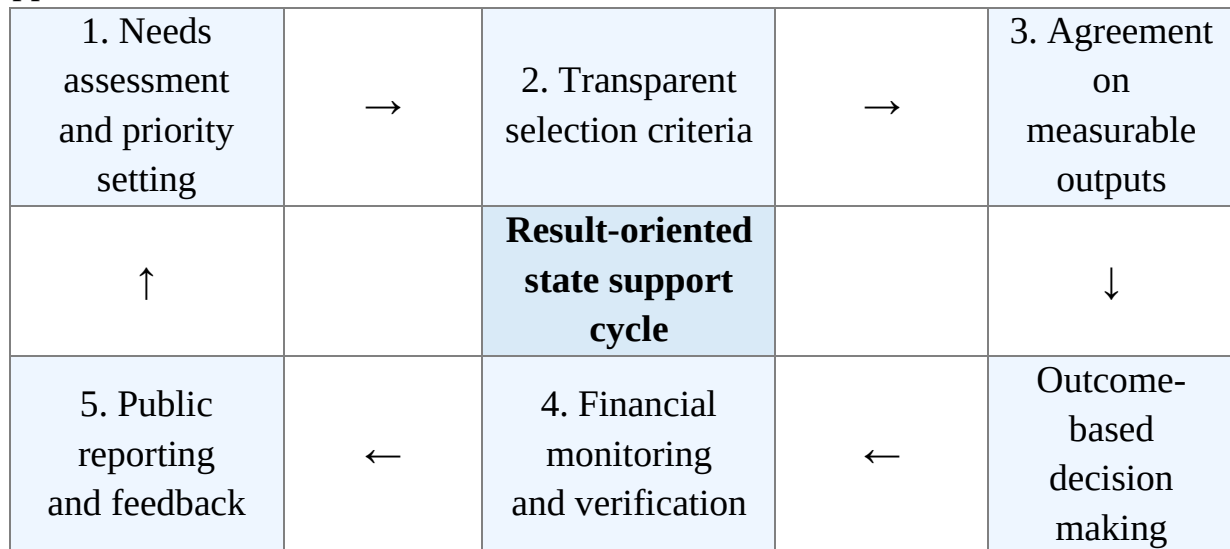


Figure-1. Cycle of result-oriented state support for civil society institutions

The cycle presented in Figure 1 makes it possible to transform public support from a one-time allocation of resources into a continuous management process. Its main advantage is that the final stage is not separated from the next planning period. In other words, monitoring and evaluation results become a basis for future funding decisions. This creates incentives for civil society institutions to improve internal financial procedures and to present more convincing evidence of social impact.

Table-2

Typical accountability problems and recommended institutional solutions

Problem area	Manifestation in practice	Recommended solution
General indicators	Indicators such as “events held” or “participants involved” do not show real change	Introduce outcome indicators and beneficiary-level evidence
Weak financial linkage	Expenditures are reported, but their connection with outputs is unclear	Use activity-based budgeting and cost-result mapping
Descriptive reports	Final reports describe activities without analytical assessment	Apply standardized reporting templates with quantitative and qualitative indicators

Problem area	Manifestation in practice	Recommended solution
Limited verification	Supporting documents are checked formally and irregularly	Combine document review with field monitoring and digital verification
No feedback loop	Evaluation results do not influence future support decisions	Connect assessment results with renewal, revision or termination of support

The introduction of such solutions is especially important because civil society institutions often operate with limited administrative capacity. If reporting requirements are too complex, they may increase bureaucracy without improving accountability. Therefore, the state support system should combine strict financial discipline with practical methodological assistance. Training on budgeting, financial documentation, digital reporting and impact measurement can significantly improve the quality of reports and reduce the risk of unintentional mistakes.

Digital monitoring tools can also strengthen transparency. A unified online platform may include project applications, approved budgets, implementation schedules, expenditure reports, beneficiary data and final assessments. Such a platform would reduce the time needed for document exchange, allow comparative analysis across regions and sectors, and make public oversight more systematic. At the same time, digitalization should be accompanied by data protection rules and clear responsibility for the accuracy of uploaded information.

Another important aspect is the differentiation of accountability requirements according to the size and risk level of support. Small community initiatives may require simplified reporting, while large-scale programs should be subject to more detailed financial control, audit and outcome evaluation. This risk-based approach prevents excessive administrative burden and allows monitoring resources to be concentrated on projects with higher financial and social significance.

In conclusion, result-oriented state support for civil society institutions should be understood as a system that links public funds with measurable social outcomes, financial transparency and public accountability. The effectiveness of such support depends on open selection, realistic budgeting, evidence-based reporting, regular monitoring and a feedback mechanism that influences future decisions. Strengthening these elements will improve the efficiency of public resources, increase trust in civil society institutions and support the sustainable development of social initiatives.

The following practical proposals may be advanced: first, standard indicators for assessing state-supported projects should be developed by sectors; second, financial reports should be integrated with outcome reports; third, digital monitoring should be introduced gradually; fourth, the results of evaluation should be publicly disclosed in a user-friendly form; and fifth, civil society institutions should receive methodological assistance in financial planning and impact measurement. These measures can turn state support into a transparent, accountable and result-oriented financial mechanism.

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