

**INTERNATIONAL CONFERENCE ON
MEDICINE, SCIENCE, AND EDUCATION**

<https://universalconference.us>

INTERNATIONAL CONFERENCE ON MEDICINE, SCIENCE, AND EDUCATION

Volume 03, Issue 05, 2026 (JULY)

Editor in Chief

Dr. Rajeet Ojha - Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi -110025, India

Editorial Team

[Sunita Sarawagi](#) - Indian Institute of Technology Bombay, Mumbai, India.

[Dr Manjunatha LH](#) - Professor, REVA University, INDIA

[Asish Bera](#) - Edge Hill University, UK, BITS Pilani, India

[Dr Sunildro LS Akoijam](#) - Assistant Professor of Management, North Eastern Hill University, India

[Madan Mohan Singh](#) - Professor of Mathematics, North-Eastern Hill University, Shillong, India

[Dr. Anupam Singh](#) - Associate Professor-CSE, Graphic Era Hill University Dehradun, India

[Dr. Sargam Bahl Walia](#) - School of Management, Graphic Era Hill University, Dehradun, Uttarakhand, India

[Narayan Pradhan](#) - Indian Association for the Cultivation of Science

[Ashok Kumar](#) - Kumar Associate Professor E&CE National Institute of Technology. Hamirpur, India.

[Anjali Pal](#) - Department of Civil Engineering, Indian Institute of Technology Kharagpur - 721302, India.

[Rajnish Joshi](#) - Professor of Medicine, All India Institute of Medical Sciences, Bhopal, India

[Mukul Kumar](#) - IIT Mumbai (India); Meijo University (Japan); HEG Ltd. (India)

[Prof. Kuruville Joseph](#) - Indian Institute of Space Science and Technology (IIST)

[Prof. Yogesh C. Sharma](#) - D.Sc., FRSC, FBRs, FIAPS; FISEES, Department of Chemistry, Indian Institute of Technology

[Professor Indra Mani Mishra](#) - Indian Institute of Technology (Indian School of Mines), Dhanbad; Formerly at

Eshkaraev Sadridin Chorievich - Head of the Department of Medicine and Natural Sciences, Doctor of Philosophy in Chemistry, Associate Professor, Termez University of Economics and Service, Termez, Uzbekistan. . ORCID

esadir_74@rambler.ru

PSYCHOLOGICAL FACTORS OF LEADERSHIP ABILITY

Tajimuratova Shaxnoza Saginbaevna

Assistant Lecturer, Karakalpak State University named after Berdoq

Abstract: This article provides an in-depth analysis of the development of leadership abilities and the psychological factors that influence this process. Leadership is presented not merely as an innate trait, but as a complex psychological phenomenon shaped through interaction with personal and social environments. The article examines the role of personality traits, emotional intelligence, social context, and communication skills in the development of leadership potential.

Keywords: Leadership, psychological factors, personal development, emotional intelligence, social environment, communication skills, leadership potential, temperament, personality traits.

Leadership (from the English word leader) is the process of social influence on others in the performance of a common task. Leadership is a controversial term. In the specialized literature, different views on the concept are discussed, sometimes Eastern and Western approaches to leadership, as well as (in the West) North American, European approaches, are approaching each other. Some academic circles in the United States define leadership as "a process of social influence in which a person can enlist the help and support of others in the pursuit of common and moral goals." In other words, as an influential power relationship in which the power of a "leader" of one party helps others to change their behavior, "followers". Some have challenged traditional management views of leadership (which see leadership as something that belongs or is possessed by an individual because of their role or authority) and instead argue for the complex nature of leadership, with formal and informal roles present in institutions at all levels.

The search for the characteristics or traits of leaders has continued for centuries. From Plato's Republic[10] to Plutarch's Lives, he explored the question "What qualities distinguish an individual as a leader?" Underlying this research was an early recognition of the importance of leadership and the assumption that leadership is based on characteristics possessed by particular individuals. This idea that leadership is based on individual qualities is known as the "qualitative theory of leadership".

In the 19th century, as the traditional authority of monarchs, lords and bishops began to wane, a number of works explored trait theory extensively: notably the works of Thomas Carlyle and Francis Galton. . "Heroes and Hero Worship" (1841), Carlyle identified the talents, skills, and physical characteristics of men who rose to power.

Galton's Hereditary Genius (1869) examined leadership qualities in the families of powerful men. After his focus shifted from first-degree relatives to second-degree relatives, showing that the number of prominent relatives decreased, Galton concluded that leadership was inherited.

Cecil Rhodes (1853–1902) believed that community-minded leadership could be fostered by identifying young people with "moral character and the instinct for leadership" and nurturing them in contexts (e.g., in a community setting). [Oxford University]] further developed such traits. International networks of such leaders could help to foster international understanding and "make war impossible." This view of leadership is based on the creation of the Rhodes Scholarships, which have helped to shape understandings of leadership since their inception in 1903. Leadership has been described as one of the least understood concepts across cultures and civilizations. Many researchers have noted the prevalence of this misconception, noting that several misconceptions or myths about leadership prevent people from understanding what leadership is.

Today, in the conditions of social development of society, there is an increasing need for qualified, active and goal-oriented specialists who can make independent decisions, are ready to take responsibility for their actions, are able to establish the right relationship with others and the team. In recent years, the need for organizations to search for successful leaders has been especially felt. Leadership is inevitable in any civilized society and covers all areas of human activity. Leadership is the ability to solve a problem as quickly and optimally as possible, as well as to unite and organize people to implement this solution¹. This, at the same time, requires great responsibility for the consequences of the actions of the group in which the leader is. In general, in the literature, there are often cases of replacing the word "leader" with the term "leader". In our opinion, the term "leader" does not fully reflect the psychological characteristics inherent in a "leader". The word "leader" is used in relation to a group, to a person who influences its members and leads them to a goal. Leadership is a state of a person determined by analyzing the composition of the group and the system of relationships in it. However, there are a number of other aspects that characterize the qualities inherent in a leader, which we cannot analyze only within the framework of the system of relationships. In such an interpretation, it is necessary to take into account another of the main aspects inherent in a leader - the ability of a person to act in accordance with the situation. Initiative, resourcefulness and skill in overcoming difficulties that arise in a problematic situation are qualities inherent in a leader. In a difficult situation related to solving a problem, a leader is distinguished by his leadership and leadership over others. In our opinion, it is these two expressions in the

Uzbek language - the complex of the words "peskhadam" and "yetakchi" - that can fully express the essence of a leader.

In our opinion, the word "leader" comes from the desire of a person to lead and lead a group. The expression "leader" means that the group follows a person with certain qualities, and the team chooses the path that the person it trusts at its own discretion. This is exactly what should be used in relation to the expression "leader".

The innate temperament type and character traits of a person play an important role in the formation of leadership abilities. As is known, the following temperament types are distinguished depending on the characteristics of higher nervous activity: sanguine, phlegmatic, choleric, melancholic. According to this individual characteristic of a person, one can also determine his ability to lead. Most choleric have just such an ability. The actions of choleric are distinguished by their sharpness and intensity. Nature itself ordered them to be warriors, innovators, researchers, guides, leaders in general - heroes and knights. Instincts are a program of adaptation, the desire to preserve one's own life and leave offspring, attitude to oneself and others, laid down in the genetic code. Instincts are also present in animals as a genetic adaptation program, but human instincts are a different adaptation program, qualitatively different from animals. The primary difference between people arises from the dominance of one or another instinct. According to the dominance of one or another instinct, people can be divided into different groups: -Dominant type. The instinct of dominance prevails. Starting from childhood, the ability to organize games, the will to set goals and achieve them, to understand people and lead them, and business acumen are manifested. Later, the primacy of status needs, the need to control others, the ability to take into account the interests of the entire team, ignoring the interests of a particular person, is manifested. Worldview - "work and order are above all, if it is good for everyone, it is good for everyone." Leaders, captains, managers, politicians, organizers appear on this type of basis. Modern psychology, through its achievements, can provide sufficient information about the nature of the qualities inherent in a leader and the guidelines for achieving them.

In this regard, we can divide the aspects inherent in a leader into three categories:

1. Orientation to the interests of the team;
2. Professional skill, taking on the challenge in any problem situation and taking the initiative in solving the problem to the end;
3. Emotional, emotional attraction qualities.

Speaking about the phenomenon of leadership, it is appropriate to briefly touch upon leadership theories. To date, there are various theories about leadership in the discipline of "Management Psychology". "Theory of Leadership Qualities" or "Charismatic

Theory”. Its essence is that not everyone can be a leader, some individuals are born with a set of such qualities, and this set of qualities ensures that they become leaders in a group. For example, in 1940, the American K. Byrd compiled a list of leadership aspects consisting of 79 qualities. This list included, among others, such qualities as initiative, ability to communicate, sense of humor, self-confidence, ability to make quick and clear decisions, and organization⁴. The psychological foundations of understanding leadership through leadership theories - trait theory, situational approaches - were also considered. From a practical point of view, the effectiveness of psychological training, role-playing exercises and self-analysis methods in developing leadership skills is substantiated.

The results of the study show that leadership is a learnable, purposeful psychological approach, the development of which is an important factor for personal growth and social success. Psychological factors play a decisive role in the formation of leadership skills, and the individuality, emotional stability, level of self-awareness and motivational system of a person are the main factors in his formation as an effective leader. Scientific research shows that leadership is closely related not only to innate qualities, but also to psychological development, social experience and the environment. A person's temperament, personal values, psychological stability in decision-making, and the level of stress resistance also play an important role in effective leadership. These aspects allow maintaining balance in difficult situations that arise in leadership activities, taking the right path and providing moral support to the team. In conclusion, leadership ability is not just a set of social or organizational skills, but a complex system with a deep psychological foundation, open to continuous development. Therefore, in-depth study, assessment and development of psychological factors in the formation of leadership is of strategic importance.

LIST OF REFERENCES USED:

1. “Boshqaruv psixologiyasi” A.S.Nazarov darslik Toshkent-2022
2. “Boshqaruv psixologiyasi” I.Mahmudov o’quv qo’llanma Toshkent
3. “Boshqaruv psixologiyasi” O.E.Hayitov Toshkent-2021
4. [4.https://cyberleninka.ru/article/n/liderstvo-psihologiya-liderstvaliderskaya-effektivnost-v-upravlenii/viewer](https://cyberleninka.ru/article/n/liderstvo-psihologiya-liderstvaliderskaya-effektivnost-v-upravlenii/viewer)

ХИРУРГИЧЕСКИЕ ЗАБОЛЕВАНИЯ ДИСТОПИРОВАННОЙ ПОЧКИ У ДЕТЕЙ

Курбанов Тукташ Алимович

Термезский университет экономики и сервиса, кафедра терапевтических наук, доцент, кандидат медицинских наук.

kurbanovtuktas@gmail.com

Аннотация: Дистопия почки является одной из наиболее распространённых врождённых аномалий мочевой системы. Заболевание может длительное время протекать бессимптомно или сопровождаться инфекциями мочевых путей, нарушением уродинамики, нефролитиазом и гидронефрозом. Дистопия почек является врожденной аномалией развития мочевой системы, возникающей вследствие нарушения эмбриональной миграции почки. Несмотря на относительно редкую встречаемость, данная патология имеет важное клиническое значение, поскольку может сопровождаться инфекциями мочевыводящих путей, гидронефрозом, мочекаменной болезнью и нарушением функции почек. В статье представлены современные сведения об эпидемиологии, классификации, клинической картине, диагностике и лечении дистопии почек у детей.

Цель исследования: Проанализировать современные данные литературы по вопросам диагностики, клинического течения и лечения дистопии почек у детей. Изучить современные литературные данные о клинических особенностях, диагностике и лечении дистопии почек у детей.

Ключевые слова: дистопия почки, дети, врожденные аномалии, ультразвуковое исследование, компьютерная томография, нефросцинтиграфия.

Материалы и методы: Проведен анализ отечественной и зарубежной научной литературы, опубликованной за последние годы, посвященной вопросам диагностики, клинического течения и лечения дистопии почек у детей. Используются данные клинических рекомендаций и современных научных публикаций.

Дистопия почки подразделяется на тазовую, подвздошную, поясничную, грудную и перекрестную формы. Наиболее распространенной является тазовая дистопия. Клинические проявления зависят от локализации почки и наличия осложнений. Основными симптомами являются боли в животе или пояснице, инфекции мочевыводящих путей, нарушения мочеиспускания, гидронефроз и нефролитиаз. У значительной части детей заболевание протекает

бессимптомно. Основным методом первичной диагностики является ультразвуковое исследование. Для уточнения анатомии применяются компьютерная томография, магнитно-резонансная томография, экскреторная урография и радиоизотопная нефросцинтиграфия. Лечение определяется клинической ситуацией. При отсутствии осложнений показано динамическое наблюдение. При развитии инфекционных осложнений проводится антибактериальная терапия. При выраженном нарушении уродинамики, гидронефрозе или мочекаменной болезни может потребоваться хирургическое лечение.

На клинических базах кафедры хирургии детского возраста ЛПМИ за последние годы лечились 91 больной ребенок с дистопией почки в возрасте от 2 до 14 лет. Из них девочки -59, мальчиков 32. Гомолатеральная-84, гетеролатеральная – 7, поясничная дистопия выявлена у 38, подвздошная у 24, тазовая у 21, грудная у 1 ребенка.

До поступления в клинику все дети неоднократно находились в различных детских стационарах с различными диагнозами. Соответственно этому мы разделили всех контингентов на 4 группы по признаку преобладания тех или иных симптомов в клинической картине заболевания

В первую группу вошли 87 детей с болевым синдромом: боли в животе, пояснице и грудной клетки и т.д. Больные как правило, находились в подозрении на острые заболевания брюшной полости. Наиболее часто диагностические ошибки у больных этой группы наблюдались при подвздошной и тазовой дистопии почек в связи с локализацией болей, когда данные симптомы принимались за острый аппендицит, кишечную непроходимость и опухоли брюшной полости. Из этой группы больных у 6 были подвернуты неправильному оперативному вмешательству: аппендэктомия-5, лапаротомия-1. Во вторую группу вошли 39 детей, у которых на первый план выступали явления хронического пиелонефрита. Из этих пациентов 33 обследовались неоднократно в различных детских стационарах. Данной группы больных давность заболевания до установления правильного диагноза различная: у 10 от 1 до 3 лет, у 18-от 4 до 6 лет, у 8- от 7 до 9 лет.

В третью группу вошли 12 больных неоднократно обследовавшихся по поводу недержания мочи (6) и энуреза (6). У 4 больных ночной энурез, у 2 дневной, недержания мочи у 3 сопровождалось периодическими

болями в животе. Давность заболевания до установления диагноза: у 7 больных от 2 до 4 лет, у 5- от 5 до 9 лет. В четвертую группу вошли 4 больных с перенесенной травмой живота. Из них у 3 отмечено наличие опухоли в области

пупка, у 2- периодические боли в животе и пояснице, у 2- микрогематурия, у3- наличие белка в моче, у 1- лейкоцитурия.

Ранняя диагностика позволяет своевременно предупредить развитие осложнений и выбрать оптимальную тактику наблюдения или хирургического лечения. Установлено, что основными методами диагностики являются ультразвуковое исследование, компьютерная томография, магнитно-резонансная томография, экскреторная урография и динамическая нефросцинтиграфия. Выбор лечебной тактики определяется видом дистопии, функциональным состоянием почки и наличием осложнений. Распознавание дистопии почек у детей на основании клинических данных довольно трудно, иногда практически невозможно. Решающую роль в диагностике имеет рентгенологическое и радиоизотопное обследование больного. Дистопия почек у детей является важной врожденной аномалией мочевой системы. Современные методы визуализации позволяют своевременно установить диагноз и определить тактику лечения. При отсутствии осложнений прогноз благоприятный, однако дети нуждаются в длительном диспансерном наблюдении

Заключение

1. Дистопия почек относится к наиболее распространённым врождённым аномалиям мочевой системы.
2. Основным методом раннего выявления является ультразвуковое исследование.
3. Дополнительные методы визуализации позволяют определить анатомические особенности и функциональное состояние почки.
4. Лечение определяется индивидуально и зависит от клинических проявлений и наличия осложнений.
5. Своевременная диагностика способствует сохранению функции почки и улучшению качества жизни ребёнка.

Литература

1. Курбанов Т.А «Болаларда буйрак дистопия касаллиги».
2. Осипов И.Б Курбанов Т.А «Болаларда буйрак дистопиясининг клиник кечиши».
3. Баиров Г.А , Осипов И.Б , Головки Ю.И, Курбанов Т.А « Болалар буйрак дистопиясида жаррохлик амалиетлари »
4. Курбанов Т.А , Осипов И.Б « дистопия касаллигида утказилган жаррохлик амалиетлари натижалари».
5. Campbell-Walsh-Wein Urology.
6. Nelson Textbook of Pediatrics.

7. European Association of Urology (EAU) Guidelines.
8. American Urological Association (AUA) Guidelines.
9. Клинические рекомендации по детской урологии Российской Федерации.

COGNITIVE AND STYLISTIC ASPECTS OF EMOTIVE METAPHORS IN ENGLISH AND UZBEK LITERARY DISCOURSE

Aslonova Suxaylo Botir qizi

Master's degree student Foreign Language and a Social Sciences, Asia International
University, Bukhara

Abstract. *The present study investigates cognitive and stylistic aspects of emotive metaphors in English and Uzbek literary discourse from the perspective of cognitive linguistics. Emotive metaphors are important cognitive mechanisms through which people conceptualize and express emotional experiences. The research focuses on structural-semantic modeling and functional-stylistic analysis of emotional metaphors in both languages. The findings demonstrate that emotive metaphors are grounded in universal embodied human experience, while at the same time their linguistic realization reflects culture-specific worldviews and values. The comparative analysis shows both similarities and differences in how emotions such as anger, love, fear, sadness, happiness, jealousy, and pride are conceptualized in English and Uzbek. In my view, these differences are closely connected with cultural traditions and ways of thinking about human emotions.*

Keywords: *emotive metaphor, cognitive linguistics, conceptual metaphor theory, literary discourse, English, Uzbek.*

Introduction. Emotions are one of the most important aspects of human life, cognition, and communication. However, emotional experiences are abstract and difficult to describe directly. For this reason, people use metaphorical language to understand and express emotions. In cognitive linguistics, metaphor is not seen as a simple stylistic device, but as a basic mechanism of thinking. According to Conceptual Metaphor Theory developed by Lakoff and Johnson, people understand abstract concepts through more concrete experiences based on the human body, movement, and physical world. Emotive metaphors are especially important because they show how emotions are structured in the human mind. In my research, I analyze how English and Uzbek languages conceptualize emotions through metaphorical systems in literary discourse.

Main part. In my analysis, I observed that both English and Uzbek languages strongly rely on embodied human experience when conceptualizing emotions. One of the most productive conceptual metaphors is *anger is heat*. In English, anger is expressed through metaphors such as boiling with anger, fuming mad, and exploded in rage. In Uzbek, similar expressions are found: qonim qaynadi,

ichim qaynab ketdi, and jahldan yonib ketdi. These examples show that physiological reactions such as increased body temperature and heart rate motivate similar metaphorical structures in both languages. Another important metaphor is *love is fire*. In English, we find expressions like burning with love, flame of passion, and consumed by love. In Uzbek, we also use *ishq o'tida yonmoq* and *muhabbat alangasi*. In my view, Uzbek literary tradition often gives this metaphor a deeper spiritual meaning, especially in classical literature influenced by Sufism and the works of Alisher Navoiy. Fear is conceptualized through *fear is cold* and *fear is paralysis*. English expressions include frozen with fear and blood ran cold. Uzbek expressions include *qo'rquvdan muzlab qoldi* and *dahshatdan qotib qoldi*. This shows that fear is universally connected with physical sensations of coldness and immobility. Sadness is often conceptualized through *sadness is down* and *sadness is heaviness*. English examples include feeling down and weighed down by sorrow. Uzbek examples include *kayfiyati tushib ketdi* and *yuragi og'irlashdi*. Happiness is conceptualized through *happiness is up* and *happiness is light*. English expressions like on top of the world correspond to Uzbek expressions such as *kayfiyati ko'tarildi* and *yuragi yorishdi*. Jealousy and pride also follow similar patterns in both languages, often connected with heat, elevation, and emotional intensity. In my observation, although these metaphors are structurally similar, Uzbek language shows a stronger tendency toward somatic and heart-centered conceptualization. Words such as *yurak* and *ko'ngil* are central in expressing emotions. I believe this reflects a more holistic understanding of human emotional life in Uzbek culture.

In literary discourse, emotive metaphors perform several important functions. First, they intensify emotional expression. Instead of directly naming emotions, writers use metaphorical images that allow readers to experience emotions more deeply. Second, emotive metaphors help in character development. For example, in English literature, Emily Brontë's "Wuthering Heights" uses metaphors of storms, fire, and natural forces to describe strong emotional states. These metaphors show psychological tension and emotional instability. In Uzbek literature, especially in the works of O'tkir Hoshimov, emotive metaphors are closely connected with heart-centered expressions such as *yuragi ezildi*, *ko'ngli sindi*, and *g'am daryosiga botdi*. In my view, this reflects the integration of emotional, moral, and spiritual experience in Uzbek literary tradition. Metaphorical emotivity also has cognitive and evaluative functions. It helps readers understand abstract emotions and evaluate characters. For example, light and fire often represent positive emotions, while darkness and cold represent negative emotions. In English literary discourse, emotions are often presented as individual psychological

experiences. In contrast, Uzbek literary discourse tends to present emotions as deeply connected with social, moral, and spiritual values.

Conclusion. The comparative analysis of emotive metaphors in English and Uzbek shows that emotional conceptualization is based on both universal embodied experience and culture-specific interpretation. In my opinion, both languages share similar metaphorical structures, but Uzbek emotional discourse is more heart-centered and spiritually oriented, while English discourse is more individual and psychological. Therefore, emotive metaphors are not only linguistic expressions but also cognitive and cultural tools that shape how people understand emotions. Understanding these metaphors is important for translation, intercultural communication, and literary analysis.

References:

- 1.Kövecses, Z. (2005). *Metaphor in Culture: Universality and Variation*. Cambridge University Press.
- 2.Kövecses, Z. (2010). *Metaphor: A Practical Introduction* (2nd ed.). Oxford University Press.
- 3.Charteris-Black, J. (2004). *Corpus Approaches to Critical Metaphor Analysis*. Palgrave Macmillan.
- 4.Lakoff, G. (1993). "The contemporary theory of metaphor." In A. Ortony (Ed.), *Metaphor and Thought* (2nd ed.). Cambridge University Press.
- 5.Steen, G. J. (2011). *The Contemporary Theory of Metaphor – Now New and Improved!*. Review of Cognitive Linguistics.
- 6.Hoshimov, O'. (various works). Selected literary texts. (Used for Uzbek literary examples).
- 7.Brontë, E. (1847). *Wuthering Heights*. Thomas Cautley Newby.
- 8.Navoiy, A. (15th century). Selected poetic and literary works.

THE SIGNIFICANCE OF THE PLA2G7 GENE IN INCREASING THE EFFECTIVENESS OF DISEASE PROGNOSIS IN DUODENAL ULCERS COMPLICATED BY BLEEDING.

Alimov Sukhrob Usmanovich
Tashkent State Medical University

The relevance of the problem. YAK, which occupies the largest place in human pathology, is almost always the result of the combined influence of genetic and environmental factors. This means that genetic influence alone is insufficient for the development of this disease, as is the influence of environmental factors alone. The genes that constitute the background of hereditary predisposition to the disease, as well as the environmental factors leading to the emergence of this predisposition, are not harmful in themselves; their influence is of a multiple nature, and the contribution of each to the overall effect may be insignificant. Studying the role of genes in complications of causal ulcer disease, particularly bleeding, is considered an important problem.

Goal. Improving the effectiveness of disease prediction and assessing the incidence of PLA2G7 in duodenal ulcers complicated by bleeding.

Materials and methods. A targeted scientific study of the PLA2G7 gene frequency was conducted in 119 patients with duodenal ulcer bleeding. Hospitalized patients were divided into groups: Main group (patients with duodenal ulcers complicated by bleeding): 119 patients; patients with uncomplicated duodenal ulcers: 20 patients; examined group (practically healthy individuals): 20 people.

Results. The Ala/Ala, Ala/Val, and Val/Val genotypes of the PLA2G7 gene were evaluated. Analysis of the genotype distribution showed that the Ala/Ala genotype predominated in all groups, but its prevalence varied across clinical groups. In the primary group, this genotype was recorded in 67 patients (56.3%), in the comparison group in 12 (60.0%), and in the control group in 29 practically healthy individuals (72.5%).

The heterozygous Ala/Val genotype was identified in 38 (31.9%) patients in the primary group, 4 (20.0%) in Group II, and 9 (22.5%) in the control group. At the same time, the mutant Val/Val genotype was observed in 14 (11.8%) patients with bleeding complications, 4 (20.0%) in uncomplicated patients, and 1 (2.5%) in practically healthy individuals. **Conclusion.** Therefore, the early detection of this genetic marker in patients at risk is considered important in clinical practice for selecting individualized treatment tactics, preventing recurrent bleeding, and improving the patient's prognosis.

Conclusion. No statistically significant difference was found in the overall comparison of genotype distribution ($\chi^2=7.14$; $p=0.129$). However, the proportion of genotypes containing the Val allele (Ala/Val + Val/Val) in the study group was higher (43.7%) than in the control group (25.0%).

PROSPECTS FOR IMPROVING THE INSTITUTION OF THE TEMPORARY LOAN OF ATHLETES IN UZBEKISTAN SPORTS LAW

Usmonaliyev Muslimbek Qurvonaliyevich
Doctoral candidate of Tashkent State University of Law

Modern professional sport has become a complex social institution directly connected with economic circulation, the labor market, and contractual-legal relations. In team sports such as football, basketball, volleyball, and hockey, the practice of an athlete's temporary move from one club to another is widely used as a means of improving sporting results, providing young athletes with playing practice, organizing a club's transfer policy flexibly, and preserving the athlete's market value. Although FIFA and other international sports organizations recognize the mechanism of temporarily assigning a professional athlete to another club, national legal systems interpret the legal nature of this institution in different ways¹.

In recent years, important reforms have been carried out in the Republic of Uzbekistan to support the field of sport by the state, develop professional sports infrastructure, and increase the economic independence of sports organizations. The new version of the Law "On Physical Culture and Sport," adopted on March 24, 2026, is aimed at the comprehensive regulation of relations in the field of sport and serves to define more precisely the powers of sports federations, sports organizations, and state bodies. At the same time, issues concerning the temporary move of professional athletes to another club, loan-based transfer agreements, compensation payments, the athlete's consent, and mechanisms of liability still require separate, systematic, and special legal regulation².

In the legal system of Uzbekistan, the institution of the temporary loan of an athlete has not yet been normatively consolidated as a fully formed independent contractual institution. Although the Labor Code contains a special norm concerning an athlete's temporary transfer to another employer, it mainly establishes a labor-law mechanism and does not fully cover civil-law relations between clubs, compensation, transfer rights, contractual liability, and sports jurisdiction. Therefore, the institution of the temporary loan of athletes should be improved in a comprehensive and intersectoral manner, taking into account the specific features of sports law³.

1 FIFA. Regulations on the Status and Transfer of Players. January 2025 edition. Art. 10; FIFA Global Transfer Report 2025.

2 Law of the Republic of Uzbekistan "On Physical Culture and Sport." March 24, 2026, No. LRU-1123 // Lex.uz.

3 Labor Code of the Republic of Uzbekistan. October 28, 2022, No. LRU-798, Article 503 // Lex.uz.

The purpose of this article is to scientifically assess the current state of the institution of the temporary loan of athletes in Uzbekistan sports law, to reveal its legal nature based on the theoretical views of scholars, and to develop substantiated proposals for improving national legislation. To achieve this goal, the article analyzes the concept of an athlete loan, the subjects of the agreement, its subject matter, the athlete's consent, the relationship between labor-law and civil-law elements, international experience, and issues of liability.

In determining the essence of the institution of the temporary loan of an athlete, it is first necessary to correctly understand the conditional character of the term “lease” in sports law. In a classical civil-law lease agreement, the leased object is usually a thing or a property right. An athlete, however, may not under any circumstances be treated as the object of a contract, because the athlete is an independent legal subject, a natural person possessing freedom of labor and the right to personal inviolability. Therefore, the loan of an athlete should be understood not as the loan of the athlete's person, but as the temporary use, for a defined period, of the athlete's professional sports activity, that is, the performance of an employment function aimed at a sporting result within another club⁴.

A.N. Lomov evaluates the transfer of professional football players on a “loan” basis as a distinct legal form of a player's move from one club to another. In his view, the principal feature of this form is its temporary character, since the athlete performs activities for the receiving club not permanently, but for a pre-agreed period. This approach makes it possible to distinguish an athlete loan from an ordinary transfer: in an ordinary transfer, the athlete's connection with the club ends, whereas in a temporary loan relationship the legal link with the parent club is preserved to a certain extent⁵.

E.T. Musayev emphasizes the growing influence of civil-law instruments on sports relations and shows that it is insufficient to assess contractual relations in professional sport solely through the criteria of labor law. Indeed, the relationship between a professional athlete and a club is not limited to wages, labor discipline, and the training regime. Civil-law and commercial elements such as transfer value, compensation, bonuses, advertising, image rights, the opportunity to participate in matches, and the athlete's market value also play an important role⁶.

4 Borisenko Yu.K. *Transforny kontrakt na usloviyakh “arendy” s pozitsii grazhdanskogo prava Rossiyskoy Federatsii* // *Molodoy uchenyy*. – 2016. – No. 3-2. – P. 24–26.

5 Lomov A.N. “Arenda” professionalnykh futbolistov: nekotorye aspekty pravovogo regulirovaniya // *Vestnik Universiteta imeni O.E. Kutafina*. – 2015. – No. 4. – P. 74–77.

6 Musayev E.T. *Modern trends in the influence of civil-law instruments on sports relations: abstract of the dissertation for the degree of Doctor of Legal Sciences (DSc)*. – Tashkent: TSUL, 2025. – P. 31, 44.

The views expressed by O.O. Oqyulov, B. Musayev, and N. Imomov within the framework of sports contract law demonstrate that sports contracts possess a specific private-law nature. In their opinion, although sports contracts rely on the general rules of contract law, they require a special legal approach because they are directly connected with the competitive nature of sports activity, the personality of the athlete, and the regulations of sports federations. Accordingly, the institution of the temporary loan of an athlete must be regulated not only by the rules arising from general civil contracts, but also on the basis of the special principles of sports law⁷.

The most important feature of this institution is reflected in its tripartite nature. At least three interested subjects participate in the relationship concerning the loan of an athlete: first, the parent club that temporarily provides the athlete; second, the receiving club that temporarily accepts the athlete; and third, the athlete personally. If this relationship is assessed only as a property agreement between two clubs, the athlete's freedom of labor and personal consent are left out of consideration. If it is interpreted only as an employment agreement, the mechanisms of compensation, transfer rights, and contractual liability between the clubs are not fully revealed.

From this perspective, the temporary loan agreement for an athlete should be assessed as a *sui generis*, that is, a specific, mixed, and complex agreement. In his doctrine on unnamed and mixed contracts, M.I. Braginskiy emphasizes that the needs of modern civil circulation give rise to new contractual constructions. The loan of an athlete is precisely one of such constructions: it unites elements of civil law, labor law, and sports law within a single regulatory mechanism⁸.

The Labor Code of the Republic of Uzbekistan contains special norms regulating the labor of athletes. In particular, Article 503 provides for the temporary transfer of an athlete to another employer, the conclusion of a fixed-term employment contract with the new employer during such transfer, and the temporary suspension of the initial employment contract. This norm is an important guarantee for preserving the athlete's labor-law status. However, it does not cover all constituent elements of the institution of athlete loans.

The first problem is that the civil-law nature of the temporary loan agreement for an athlete is not clearly defined in national legislation. In practice, an athlete loan relationship manifests itself as a combination of an agreement concluded between club and club, the athlete's consent, an employment contract concluded with the receiving club, and the registration procedure established by sports federation regulations. Yet there is no unified normative model defining the relationship among these elements.

7 Musayev E., Oqyulov O., Imomov N. Sports Contract Law. – Tashkent: TSUL, 2022. – 300 p.

8 Braginskiy M.I. Foundations of the Doctrine of Unnamed and Mixed Contracts. – Moscow, 2007.

The second problem is the risk of an incorrect interpretation of the subject matter of the agreement. In certain practical situations, an athlete's "transfer right," "registration right," or even "the athlete himself" may be indicated as the subject of the contract. Such an approach is inconsistent with the basic principles of civil law and labor law. Analyzing the transfer agreement from a civil-law perspective, Yu.K. Borisenko emphasizes that the contractual interest is centered not on the athlete's person, but on the club's opportunity to use the athlete's services in the established procedure⁹.

The third problem is that the issue of the athlete's consent is not sufficiently procedurally guaranteed. It is natural that the written consent of the athlete should be required when temporarily transferring the athlete to another club. However, if the form in which consent is to be given, the consequences of refusing consent, mechanisms for preventing consent obtained under compulsion, and the procedure for verification of consent by the sports federation are not clearly defined, this right may in practice remain merely formal.

The fourth problem is the fragmented regulation of liability issues. If during the temporary loan period the athlete is injured, violates disciplinary rules, is not provided with playing practice, or the receiving club fails to make compensation payments, it must be clearly established which subject bears what kind of liability. From the perspective of labor law, the employer may be the receiving club, but the parent club's strategic and property interests in relation to the athlete also remain. From the civil-law perspective, contractual liability between clubs has independent significance.

Improvement of the institution of the temporary loan of athletes should begin, above all, with the correct determination of its legal nature. Analyzing labor relations in professional sport, O.A. Shevchenko does not deny the need to regulate athletes' labor through general labor-law rules, but shows that the special features of the sports sphere require a separate legal model. This view is fully applicable to athlete loans: an athlete remains under the protection of labor law while, at the same time, the athlete's temporary transfer is closely connected with contractual and economic relations between clubs¹⁰.

S.A. Tukmanov, studying the specific features of the labor-law status of a professional football player, substantiates that, unlike an ordinary employee, an athlete has special duties such as participating in competitions, contributing to the club's sporting result, observing the sports regime, and complying with transfer rules. Therefore, in regulating

9 Борисенко Ю.К. Трансферный контракт на условиях "аренды" с позиции гражданского права Российской Федерации // Молодой ученый. – 2016. – No. 3-2. – P. 24–26.

10 Shevchenko O.A. Legal Doctrine of Labor Regulation in the Sphere of Professional Sport and the Ways of Its Implementation in Russia. – Moscow: Prospekt, 2015.

athlete loans, the general mechanism of “transferring an employee to another employer” is not sufficient; the athlete’s sporting result, registration, and right to participate in competitions must also be taken into account¹¹.

V.P. Vaskevich, conducting a general legal analysis of relations in professional sport, shows that sports contracts simultaneously contain personal, property, and organizational elements. The same triad is observed in the temporary loan of an athlete: the personal element consists of the athlete’s consent and labor activity; the property element consists of compensation, bonuses, and loan payments; and the organizational element consists of federation registration, the transfer window, and competition rules¹². A.V. Zavgorodniy and E.K. Akhmatshina, analyzing the transfer and loan of athletes from a labor-law perspective, show that such relations create complex legal links between the parent club, the receiving club, and the athlete. This approach is important for Uzbekistan’s legislation because, although the existing norm of the Labor Code provides for an athlete’s temporary transfer, it does not separately regulate the civil-law elements between clubs¹³. Sh.A. Xodjimurotov, analyzing employment contracts of professional football players, emphasizes that an athlete’s employment contract differs from an ordinary employment contract by its fixed-term nature, orientation toward sporting results, competitive obligations, and transfer rules. This view is also important for the institution of athlete loans: a temporary loan agreement must ensure harmony between the athlete’s principal employment contract and the fixed-term employment contract concluded with the receiving club¹⁴.

M.B. Tleumuratov draws attention to the need for civil-law regulation of professional sports relations and substantiates that the sphere of sport should be viewed not only within the framework of labor relations, but as a complex set of relations connected with commerce, services, property rights, and contractual liability. Based on this approach, the legislation should separately set out a civil-law contractual model for athlete loans¹⁵.

Civil-law liability within the institution of the temporary loan of an athlete has particular scientific and practical significance. This is because the relationship includes such issues as compensation between clubs, the term of the agreement, the use of the

11 Tukmanov S.A. Specific Features of the Labor-Law Status of a Professional Football Player. – Moscow, 2007.

12 Vaskevich V.P. Civil-Law Regulation of Relations in the Field of Professional Sport: General Legal Analysis. – Kazan, 2006. – 16 p.

13 Zavgorodniy A.V., Akhmatshina E.K. Transfer and loan of athletes in Russian professional sport: labor-law aspect // Vestnik of Saint Petersburg University. Law. – 2025. – Vol. 16. – No. 4. – P. 1170–1185.

14 Xodjimurotov Sh.A. Legal significance of employment contracts of professional football players: abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Law. – Tashkent: TSUL, 2023. – 54 p.

15 Tleumuratov M.B. Civil-law regulation of professional sports relations: abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Law. – Nukus, 2023.

athlete, compliance with contractual terms, and compensation for losses. If the receiving club fails to pay the loan fee, does not use the athlete for the purposes specified in the contract, or attempts to transfer the athlete to a third club without permission, civil-law liability should arise.

The general rules of the Civil Code provide for compensation of losses, penalties, and other liability measures for the failure to perform contractual obligations. However, special elements of liability should also exist for athlete loan relations. For example, the athlete's inability to participate in competitions due to non-registration, the expiry of the transfer window, the athlete's non-participation in the training process, or a club's violation of the athlete's rights produces special consequences connected with sporting results and professional development, in addition to ordinary contractual losses.

To clarify liability in the agreement, the following approach is proposed: first, civil-law liability for property obligations between clubs; second, labor-law liability for violations of the athlete's labor rights; and third, sports-disciplinary liability for violations of federation rules should be differentiated. Such a differentiated approach makes it possible to apply an appropriate legal consequence for each violation.

Liability should also be fair where the athlete personally breaches contractual obligations. The athlete must comply with the receiving club's internal rules, training regime, and competitive obligations. However, liability measures applied to the athlete must not unjustifiably restrict the athlete's labor rights or disproportionately burden future professional activity. Therefore, the principle of proportionality should be the main criterion when applying fines, disqualification, termination of the agreement, and compensation measures.

Another way to improve civil-law liability is to develop a model form of a loan agreement. Such a form should set out, in a model manner, the rights and obligations of the parties, compensation, term, medical insurance, registration, playing practice, liability, and the procedure for resolving disputes. This form should not be mandatory, but should serve as a recommendatory model providing practical assistance to clubs and federations.

In conclusion, improving the institution of the temporary loan of athletes will ensure legal certainty, contractual discipline, and effective protection of athletes' rights in Uzbekistan's professional sports market. Developing this institution as a special sports-law contract will contribute to harmonizing national sports law with modern trends, increasing the transparency of club activities, and adapting to international sports standards.

REFERENCES

1. FIFA. Regulations on the Status and Transfer of Players. January 2025 edition. Art. 10; FIFA Global Transfer Report 2025.
2. Law of the Republic of Uzbekistan “On Physical Culture and Sport.” March 24, 2026, No. LRU-1123 // Lex.uz.
3. Labor Code of the Republic of Uzbekistan. October 28, 2022, No. LRU-798, Article 503 // Lex.uz.
4. Borisenko Yu.K. Transforny kontrakt na usloviyakh “arendy” s pozitsii grazhdanskogo prava Rossiyskoy Federatsii // Molodoy uchenyy. – 2016. – No. 3-2. – P. 24–26.
5. Lomov A.N. “Arenda” professionalnykh futbolistov: nekotorye aspekty pravovogo regulirovaniya // Vestnik Universiteta imeni O.E. Kutafina. – 2015. – No. 4. – P. 74–77.
6. Musayev E.T. Modern trends in the influence of civil-law instruments on sports relations: abstract of the dissertation for the degree of Doctor of Legal Sciences (DSc). – Tashkent: TSUL, 2025. – P. 31, 44.
7. Musayev E., Oqyulov O., Imomov N. Sports Contract Law. – Tashkent: TSUL, 2022. – 300 p.
8. Braginskiy M.I. Foundations of the Doctrine of Unnamed and Mixed Contracts. – Moscow, 2007.
9. Борисенко Ю.К. Трансферный контракт на условиях “аренды” с позиции гражданского права Российской Федерации // Молодой ученый. – 2016. – No. 3-2. – P. 24–26.
10. Shevchenko O.A. Legal Doctrine of Labor Regulation in the Sphere of Professional Sport and the Ways of Its Implementation in Russia. – Moscow: Prospekt, 2015.
11. Tukmanov S.A. Specific Features of the Labor-Law Status of a Professional Football Player. – Moscow, 2007.
12. Vaskevich V.P. Civil-Law Regulation of Relations in the Field of Professional Sport: General Legal Analysis. – Kazan, 2006. – 16 p.
13. Zavgorodniy A.V., Akhmatshina E.K. Transfer and loan of athletes in Russian professional sport: labor-law aspect // Vestnik of Saint Petersburg University. Law. – 2025. – Vol. 16. – No. 4. – P. 1170–1185.
14. Xodjimurotov Sh.A. Legal significance of employment contracts of professional football players: abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Law. – Tashkent: TSUL, 2023. – 54 p.
15. Tleumuratov M.B. Civil-law regulation of professional sports relations: abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Law. – Nukus, 2023.

CURRENT CHALLENGES AND SOLUTIONS OF TECHNOLOGY INTEGRATION IN EFL CLASSROOMS

Mamarizayeva Gulnoza Safarjon qizi

Osiyo Xalqaro Universiteti

Xorijiy til va adabiyot yo'nalishi 1-kurs magistranti

Abstract

The rapid development of digital technologies has considerably transformed English language teaching and learning, especially in the area of vocabulary acquisition. Innovative technologies such as mobile applications, artificial intelligence, multimedia resources, gamified learning platforms, virtual learning environment and online collaborative tools have created new opportunities for enhancing vocabulary instruction. Despite numerous benefits of technology integration, EFL educators continue face various challenges, including inadequate technological infrastructure, limited digital competence among teachers and unequal access to technological tools. This thesis aims to investigate the current challenges associated with technology integration in EFL vocabulary teaching and to propose practical solutions for overcoming these barriers. Also, it gives significant conclusion that innovative technologies can substantially improve vocabulary learning outcomes when they are strategically integrated into the teaching process.

Key words: digital technologies, mobile applications, artificial intelligence, multimedia resources, gamified learning platforms, technology integration, EFL educators, current challenges and practical solutions.

Introduction

In this technologized world, the integration of technologies into EFL classrooms has become one of the most significant developments in modern education. These technological innovations provide learners with greater access to authentic language materials, interactive learning experiences and personalized instruction with making language acquisition more effective and engaging.

In spite of these advantages, the successful implementation of technology in EFL classrooms remains a major challenge in many educational institutions, facing difficulties such as inadequate technological infrastructure, insufficient digital literacy, limited access to modern tools and a lack of professional tools by teachers.

Therefore, this study identifies the currents challenges of technology integration and explore practical solutions that can enhance the quality of English language teaching and suggest effective strategies for overcoming these challenges.

Current challenges of technology integration in EFL classrooms.

Inadequate teacher training. In most cases, teachers have the necessary technical skills to apply technology to maximum potential. For instance, a teacher who is not familiar with the use of a learning management system like Moodle will only use it for the sake of uploading assignments and not for other more interactive options like quizzes, forums, and automated grading. Inadequate training may lead to teachers using technology in a shallow way.

Limited access for learners with technology. According to some observations, many learners, wherever they are located, whether rural with no access or disadvantaged locations, often struggle to access high-speed internet, computers and smartphones. Many schools in rural areas has infrastructure issues such as connectivity and limited access to devices. For example, a student located in remote village may need to go to a public library or an internet café just to complete an online lesson.

Lack of professional tools. Maintaining new and popular digital tools means ongoing investment, which might be difficult for cash-strapped schools and institutions. Therefore, when technology fails, both teachers and students may feel frustrated with technology and lose motivation or efficiency in using digital technologies.

Solutions for current challenges in implementing technologies in EFL classrooms

Training teachers adequately. Despite some advancements in technologies, many teachers lack digital competencies to use technology appropriately in their classrooms. For instance, higher learning institutions ought to workshop these digital applications, including LMS such as Moodle and mobile learning tools such as Duolingo. That's why, teachers should acquire enough knowledge through such digital learning applications.

Equal accessing for technology. Admittedly, many children, especially, in poverty, do not have a personal device or reliable internet. Schools can help narrow these access inequities by creating technology centers, developing device loan programs or looking for low bandwidth options like offline learning apps or downloadable resources to alleviate access issues representative of a digital form of the same communication obstacles of the 20th century.

Supporting Sustainable professional tools. In these technological century. Both teachers and learners should have available and modern gadgets to align with their academic learning process. This is because, most lessons are conducted in blended methods or by online, utilizing different online platforms. That's why. Having sustainable professional technology for human is being considered the interdisciplinary part of daily learning day by day.

Conclusion

In conclusion. Technology has significant potential to improve the quality of EFL teaching and learning. However, its successful integration is often limited by insufficient teacher training, inadequate technological resources, and restricted access to digital tools. Addressing these challenges through professional development, infrastructure improvement, and effective instructional practices can create a more engaging and productive learning environment for both teachers and students.

References

1. Chappelle. C. A & Jameison. J (2008). Tips for teaching CALL: Practical approaches to computer-assisted language learning. Pearson Longman.
2. Goswin-Jones. R (2011). Emerging technologies. Autonomous language learning. Language learning & Technology 15(3). 4-11
3. Shadiev. R. & Yang. M (2020). Review of research on technology-enhanced EFL learning: Benefits, challenges and future directions. Educational Technology Research and Development. 68(2).877-898.
4. Mishra. P & Koehler. M. J (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. Teachers College Record. 108(6). 1017-1054.

PROSPECTS FOR IMPROVING THE INSTITUTION OF THE TEMPORARY LOAN OF ATHLETES IN UZBEKISTAN SPORTS LAW

Usmonaliyev Muslimbek Qurvonaliyevich

Doctoral candidate of Tashkent State University of Law

Modern professional sport has become a complex social institution directly connected with economic circulation, the labor market, and contractual-legal relations. In team sports such as football, basketball, volleyball, and hockey, the practice of an athlete's temporary move from one club to another is widely used as a means of improving sporting results, providing young athletes with playing practice, organizing a club's transfer policy flexibly, and preserving the athlete's market value. Although FIFA and other international sports organizations recognize the mechanism of temporarily assigning a professional athlete to another club, national legal systems interpret the legal nature of this institution in different ways¹.

1 FIFA. Regulations on the Status and Transfer of Players. January 2025 edition. Art. 10; FIFA Global Transfer Report 2025.

In recent years, important reforms have been carried out in the Republic of Uzbekistan to support the field of sport by the state, develop professional sports infrastructure, and increase the economic independence of sports organizations. The new version of the Law “On Physical Culture and Sport,” adopted on March 24, 2026, is aimed at the comprehensive regulation of relations in the field of sport and serves to define more precisely the powers of sports federations, sports organizations, and state bodies. At the same time, issues concerning the temporary move of professional athletes to another club, loan-based transfer agreements, compensation payments, the athlete’s consent, and mechanisms of liability still require separate, systematic, and special legal regulation².

In the legal system of Uzbekistan, the institution of the temporary loan of an athlete has not yet been normatively consolidated as a fully formed independent contractual institution. Although the Labor Code contains a special norm concerning an athlete’s temporary transfer to another employer, it mainly establishes a labor-law mechanism and does not fully cover civil-law relations between clubs, compensation, transfer rights, contractual liability, and sports jurisdiction. Therefore, the institution of the temporary loan of athletes should be improved in a comprehensive and intersectoral manner, taking into account the specific features of sports law³.

The purpose of this article is to scientifically assess the current state of the institution of the temporary loan of athletes in Uzbekistan sports law, to reveal its legal nature based on the theoretical views of scholars, and to develop substantiated proposals for improving national legislation. To achieve this goal, the article analyzes the concept of an athlete loan, the subjects of the agreement, its subject matter, the athlete’s consent, the relationship between labor-law and civil-law elements, international experience, and issues of liability.

In determining the essence of the institution of the temporary loan of an athlete, it is first necessary to correctly understand the conditional character of the term “lease” in sports law. In a classical civil-law lease agreement, the leased object is usually a thing or a property right. An athlete, however, may not under any circumstances be treated as the object of a contract, because the athlete is an independent legal subject, a natural person possessing freedom of labor and the right to personal inviolability. Therefore, the loan of an athlete should be understood not as the loan of the athlete’s person, but as the temporary use, for a defined period, of the athlete’s professional sports activity,

2 Law of the Republic of Uzbekistan “On Physical Culture and Sport.” March 24, 2026, No. LRU-1123 // Lex.uz.

3 Labor Code of the Republic of Uzbekistan. October 28, 2022, No. LRU-798, Article 503 // Lex.uz.

that is, the performance of an employment function aimed at a sporting result within another club⁴.

A.N. Lomov evaluates the transfer of professional football players on a “loan” basis as a distinct legal form of a player’s move from one club to another. In his view, the principal feature of this form is its temporary character, since the athlete performs activities for the receiving club not permanently, but for a pre-agreed period. This approach makes it possible to distinguish an athlete loan from an ordinary transfer: in an ordinary transfer, the athlete’s connection with the club ends, whereas in a temporary loan relationship the legal link with the parent club is preserved to a certain extent⁵.

E.T. Musayev emphasizes the growing influence of civil-law instruments on sports relations and shows that it is insufficient to assess contractual relations in professional sport solely through the criteria of labor law. Indeed, the relationship between a professional athlete and a club is not limited to wages, labor discipline, and the training regime. Civil-law and commercial elements such as transfer value, compensation, bonuses, advertising, image rights, the opportunity to participate in matches, and the athlete’s market value also play an important role⁶.

The views expressed by O.O. Oqyulov, B. Musayev, and N. Imomov within the framework of sports contract law demonstrate that sports contracts possess a specific private-law nature. In their opinion, although sports contracts rely on the general rules of contract law, they require a special legal approach because they are directly connected with the competitive nature of sports activity, the personality of the athlete, and the regulations of sports federations. Accordingly, the institution of the temporary loan of an athlete must be regulated not only by the rules arising from general civil contracts, but also on the basis of the special principles of sports law⁷.

The most important feature of this institution is reflected in its tripartite nature. At least three interested subjects participate in the relationship concerning the loan of an athlete: first, the parent club that temporarily provides the athlete; second, the receiving club that temporarily accepts the athlete; and third, the athlete personally. If this relationship is assessed only as a property agreement between two clubs, the athlete’s freedom of labor and personal consent are left out of consideration. If it is interpreted only as an

4 Borisenko Yu.K. *Transforny kontrakt na usloviyakh “arendy” s pozitsii grazhdanskogo prava Rossiyskoy Federatsii* // *Molodoy uchenyy*. – 2016. – No. 3-2. – P. 24–26.

5 Lomov A.N. “Arenda” professionalnykh futbolistov: nekotorye aspekty pravovogo regulirovaniya // *Vestnik Universiteta imeni O.E. Kutafina*. – 2015. – No. 4. – P. 74–77.

6 Musayev E.T. *Modern trends in the influence of civil-law instruments on sports relations: abstract of the dissertation for the degree of Doctor of Legal Sciences (DSc)*. – Tashkent: TSUL, 2025. – P. 31, 44.

7 Musayev E., Oqyulov O., Imomov N. *Sports Contract Law*. – Tashkent: TSUL, 2022. – 300 p.

employment agreement, the mechanisms of compensation, transfer rights, and contractual liability between the clubs are not fully revealed.

From this perspective, the temporary loan agreement for an athlete should be assessed as a *sui generis*, that is, a specific, mixed, and complex agreement. In his doctrine on unnamed and mixed contracts, M.I. Braginskiy emphasizes that the needs of modern civil circulation give rise to new contractual constructions. The loan of an athlete is precisely one of such constructions: it unites elements of civil law, labor law, and sports law within a single regulatory mechanism⁸.

The Labor Code of the Republic of Uzbekistan contains special norms regulating the labor of athletes. In particular, Article 503 provides for the temporary transfer of an athlete to another employer, the conclusion of a fixed-term employment contract with the new employer during such transfer, and the temporary suspension of the initial employment contract. This norm is an important guarantee for preserving the athlete's labor-law status. However, it does not cover all constituent elements of the institution of athlete loans.

The first problem is that the civil-law nature of the temporary loan agreement for an athlete is not clearly defined in national legislation. In practice, an athlete loan relationship manifests itself as a combination of an agreement concluded between club and club, the athlete's consent, an employment contract concluded with the receiving club, and the registration procedure established by sports federation regulations. Yet there is no unified normative model defining the relationship among these elements.

The second problem is the risk of an incorrect interpretation of the subject matter of the agreement. In certain practical situations, an athlete's "transfer right," "registration right," or even "the athlete himself" may be indicated as the subject of the contract. Such an approach is inconsistent with the basic principles of civil law and labor law. Analyzing the transfer agreement from a civil-law perspective, Yu.K. Borisenko emphasizes that the contractual interest is centered not on the athlete's person, but on the club's opportunity to use the athlete's services in the established procedure⁹.

The third problem is that the issue of the athlete's consent is not sufficiently procedurally guaranteed. It is natural that the written consent of the athlete should be required when temporarily transferring the athlete to another club. However, if the form in which consent is to be given, the consequences of refusing consent, mechanisms for preventing consent obtained under compulsion, and the procedure for verification of

8 Braginskiy M.I. Foundations of the Doctrine of Unnamed and Mixed Contracts. – Moscow, 2007.

9 Борисенко Ю.К. Трансферный контракт на условиях "аренды" с позиции гражданского права Российской Федерации // Молодой ученый. – 2016. – No. 3-2. – P. 24–26.

consent by the sports federation are not clearly defined, this right may in practice remain merely formal.

The fourth problem is the fragmented regulation of liability issues. If during the temporary loan period the athlete is injured, violates disciplinary rules, is not provided with playing practice, or the receiving club fails to make compensation payments, it must be clearly established which subject bears what kind of liability. From the perspective of labor law, the employer may be the receiving club, but the parent club's strategic and property interests in relation to the athlete also remain. From the civil-law perspective, contractual liability between clubs has independent significance.

Improvement of the institution of the temporary loan of athletes should begin, above all, with the correct determination of its legal nature. Analyzing labor relations in professional sport, O.A. Shevchenko does not deny the need to regulate athletes' labor through general labor-law rules, but shows that the special features of the sports sphere require a separate legal model. This view is fully applicable to athlete loans: an athlete remains under the protection of labor law while, at the same time, the athlete's temporary transfer is closely connected with contractual and economic relations between clubs¹⁰.

S.A. Tukmanov, studying the specific features of the labor-law status of a professional football player, substantiates that, unlike an ordinary employee, an athlete has special duties such as participating in competitions, contributing to the club's sporting result, observing the sports regime, and complying with transfer rules. Therefore, in regulating athlete loans, the general mechanism of "transferring an employee to another employer" is not sufficient; the athlete's sporting result, registration, and right to participate in competitions must also be taken into account¹¹.

V.P. Vaskevich, conducting a general legal analysis of relations in professional sport, shows that sports contracts simultaneously contain personal, property, and organizational elements. The same triad is observed in the temporary loan of an athlete: the personal element consists of the athlete's consent and labor activity; the property element consists of compensation, bonuses, and loan payments; and the organizational element consists of federation registration, the transfer window, and competition rules¹². A.V. Zavgorodniy and E.K. Akhmatshina, analyzing the transfer and loan of athletes from a labor-law perspective, show that such relations create complex legal links between the parent club, the receiving club, and the athlete. This approach is

10 Shevchenko O.A. Legal Doctrine of Labor Regulation in the Sphere of Professional Sport and the Ways of Its Implementation in Russia. – Moscow: Prospekt, 2015.

11 Tukmanov S.A. Specific Features of the Labor-Law Status of a Professional Football Player. – Moscow, 2007.

12 Vaskevich V.P. Civil-Law Regulation of Relations in the Field of Professional Sport: General Legal Analysis. – Kazan, 2006. – 16 p.

important for Uzbekistan's legislation because, although the existing norm of the Labor Code provides for an athlete's temporary transfer, it does not separately regulate the civil-law elements between clubs¹³. Sh.A. Xodjimurotov, analyzing employment contracts of professional football players, emphasizes that an athlete's employment contract differs from an ordinary employment contract by its fixed-term nature, orientation toward sporting results, competitive obligations, and transfer rules. This view is also important for the institution of athlete loans: a temporary loan agreement must ensure harmony between the athlete's principal employment contract and the fixed-term employment contract concluded with the receiving club¹⁴.

M.B. Tleumuratov draws attention to the need for civil-law regulation of professional sports relations and substantiates that the sphere of sport should be viewed not only within the framework of labor relations, but as a complex set of relations connected with commerce, services, property rights, and contractual liability. Based on this approach, the legislation should separately set out a civil-law contractual model for athlete loans¹⁵.

Civil-law liability within the institution of the temporary loan of an athlete has particular scientific and practical significance. This is because the relationship includes such issues as compensation between clubs, the term of the agreement, the use of the athlete, compliance with contractual terms, and compensation for losses. If the receiving club fails to pay the loan fee, does not use the athlete for the purposes specified in the contract, or attempts to transfer the athlete to a third club without permission, civil-law liability should arise.

The general rules of the Civil Code provide for compensation of losses, penalties, and other liability measures for the failure to perform contractual obligations. However, special elements of liability should also exist for athlete loan relations. For example, the athlete's inability to participate in competitions due to non-registration, the expiry of the transfer window, the athlete's non-participation in the training process, or a club's violation of the athlete's rights produces special consequences connected with sporting results and professional development, in addition to ordinary contractual losses.

To clarify liability in the agreement, the following approach is proposed: first, civil-law liability for property obligations between clubs; second, labor-law liability for

13 Zavgorodniy A.V., Akhmatshina E.K. Transfer and loan of athletes in Russian professional sport: labor-law aspect // Vestnik of Saint Petersburg University. Law. – 2025. – Vol. 16. – No. 4. – P. 1170–1185.

14 Xodjimurotov Sh.A. Legal significance of employment contracts of professional football players: abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Law. – Tashkent: TSUL, 2023. – 54 p.

15 Tleumuratov M.B. Civil-law regulation of professional sports relations: abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Law. – Nukus, 2023.

violations of the athlete's labor rights; and third, sports-disciplinary liability for violations of federation rules should be differentiated. Such a differentiated approach makes it possible to apply an appropriate legal consequence for each violation.

Liability should also be fair where the athlete personally breaches contractual obligations. The athlete must comply with the receiving club's internal rules, training regime, and competitive obligations. However, liability measures applied to the athlete must not unjustifiably restrict the athlete's labor rights or disproportionately burden future professional activity. Therefore, the principle of proportionality should be the main criterion when applying fines, disqualification, termination of the agreement, and compensation measures.

Another way to improve civil-law liability is to develop a model form of a loan agreement. Such a form should set out, in a model manner, the rights and obligations of the parties, compensation, term, medical insurance, registration, playing practice, liability, and the procedure for resolving disputes. This form should not be mandatory, but should serve as a recommendatory model providing practical assistance to clubs and federations.

In conclusion, improving the institution of the temporary loan of athletes will ensure legal certainty, contractual discipline, and effective protection of athletes' rights in Uzbekistan's professional sports market. Developing this institution as a special sports-law contract will contribute to harmonizing national sports law with modern trends, increasing the transparency of club activities, and adapting to international sports standards.

REFERENCES

1. FIFA. Regulations on the Status and Transfer of Players. January 2025 edition. Art. 10; FIFA Global Transfer Report 2025.
2. Law of the Republic of Uzbekistan "On Physical Culture and Sport." March 24, 2026, No. LRU-1123 // Lex.uz.
3. Labor Code of the Republic of Uzbekistan. October 28, 2022, No. LRU-798, Article 503 // Lex.uz.
4. Borisenko Yu.K. Transforny kontrakt na usloviyakh "arendy" s pozitsii grazhdanskogo prava Rossiyskoy Federatsii // Molodoy uchenyy. – 2016. – No. 3-2. – P. 24–26.
5. Lomov A.N. "Arenda" professionalnykh futbolistov: nekotorye aspekty pravovogo regulirovaniya // Vestnik Universiteta imeni O.E. Kutafina. – 2015. – No. 4. – P. 74–77.

6. Musayev E.T. Modern trends in the influence of civil-law instruments on sports relations: abstract of the dissertation for the degree of Doctor of Legal Sciences (DSc). – Tashkent: TSUL, 2025. – P. 31, 44.
7. Musayev E., Oqyulov O., Imomov N. Sports Contract Law. – Tashkent: TSUL, 2022. – 300 p.
8. Braginskiy M.I. Foundations of the Doctrine of Unnamed and Mixed Contracts. – Moscow, 2007.
9. Борисенко Ю.К. Трансферный контракт на условиях “аренды” с позиции гражданского права Российской Федерации // Молодой ученый. – 2016. – No. 3-2. – P. 24–26.
10. Shevchenko O.A. Legal Doctrine of Labor Regulation in the Sphere of Professional Sport and the Ways of Its Implementation in Russia. – Moscow: Prospekt, 2015.
11. Tukmanov S.A. Specific Features of the Labor-Law Status of a Professional Football Player. – Moscow, 2007.
12. Vaskevich V.P. Civil-Law Regulation of Relations in the Field of Professional Sport: General Legal Analysis. – Kazan, 2006. – 16 p.
13. Zavgorodniy A.V., Akhmatshina E.K. Transfer and loan of athletes in Russian professional sport: labor-law aspect // Vestnik of Saint Petersburg University. Law. – 2025. – Vol. 16. – No. 4. – P. 1170–1185.
14. Xodjimurotov Sh.A. Legal significance of employment contracts of professional football players: abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Law. – Tashkent: TSUL, 2023. – 54 p.
15. Tleumuratov M.B. Civil-law regulation of professional sports relations: abstract of the dissertation for the degree of Doctor of Philosophy (PhD) in Law. – Nukus, 2023.

METAPHOR AS A STYLISTIC DEVICE FOR CONSTRUCTING FEMALE IDENTITY IN SYLVIA PLATH'S SELECTED POEMS

Anvar Kamalov

1st-year Master's degree student,

Department of Foreign Languages and History,
Asia International University, Bukhara, Uzbekistan

Email: kamalovanvar@gmail.com

Annotatsiya. Ushbu tezisdagi Silviya Plathning "Ko'zgu", "Talabgor" va "Lolalar" she'rlarida ayol shaxsiyatini shakllantirishda metaforaning uslubiy vazifalari o'rganiladi. Tadqiqot kognitiv stilistika va feministik adabiy tanqidga tayanib, metaforaning shunchaki poetik bezak emas, balki lingvistik mexanizm sifatida ishlashini o'rganadi. Qiyosiy matn tahlili orqali ish shuni ko'rsatadiki, Plath ayol o'ziga xosligini ijtimoiy jihatdan qurilgan, psixologik jihatdan beqaror va doimiy ravishda qayta tiklanadigan tarzda ifodalash uchun konseptual metafora, moddiylashtirish, jonlantirish va lug'aviy qarama-qarshilikdan foydalanadi. Tadqiqot natijalari shuni ko'rsatadiki, metafora asosiy uslubiy vosita bo'lib xizmat qiladi, uning yordamida Plath ayollik haqidagi an'anaviy tasavvurlarga qarshi chiqadi va patriarxal diskursning ayol subyektivligiga ta'sirini fosh etadi.

Kalit so'zlar: Sylvia Plath, metafora, stilistika, ayol shaxsiyati, kognitiv stilistika, feministik adabiy tanqid, poetik til.

Аннотация. В тезисе рассматриваются стилистические функции метафоры в формировании женской идентичности в стихотворениях Сильвии Плат Mirror, The Applicant и Tulips. Используя методы когнитивной стилистики и феминистской литературной критики, автор показывает, что метафора выступает не только художественным приемом, но и языковым механизмом конструирования субъективности. Анализ показывает, что посредством концептуальной метафоры, реификации, олицетворения и лексических противопоставлений Плат раскрывает влияние общественных и гендерных норм на формирование женской идентичности.

Ключевые слова: Сильвия Плат, метафора, стилистика, женская идентичность, когнитивная стилистика, феминистская критика.

Abstract. This thesis examines the stylistic functions of metaphor in constructing female identity in Sylvia Plath's poems Mirror, The Applicant, and Tulips. Drawing upon cognitive stylistics and feminist literary criticism, the study explores how

metaphor functions as a linguistic mechanism rather than merely a poetic ornament. Through comparative textual analysis, the paper demonstrates that Plath employs conceptual metaphor, reification, personification, and lexical contrast to represent feminine identity as socially constructed, psychologically unstable, and continually reconstructed. The findings indicate that metaphor serves as the principal stylistic device through which Plath challenges conventional representations of womanhood and exposes the influence of patriarchal discourse on female subjectivity.

Keywords: *Sylvia Plath, metaphor, stylistics, female identity, cognitive stylistics, feminist criticism, poetic language.*

Introduction. The poetry of Sylvia Plath occupies a distinctive place in twentieth-century American literature because of its rich figurative language and complex representation of female experience. While numerous scholars have examined Plath's works from autobiographical and feminist perspectives, comparatively less attention has been devoted to the stylistic mechanisms through which metaphor constructs female identity. Modern stylistics regards metaphor as a cognitive process that transfers characteristics from a concrete source domain to an abstract target domain, thereby shaping the reader's conceptual understanding rather than merely decorating the text.¹ Consequently, metaphor in Plath's poetry should be understood as an important linguistic device that organizes poetic meaning and represents feminine subjectivity. In Plath's selected poems, metaphor consistently transforms ordinary objects into representations of female identity. Although *Mirror*, *The Applicant*, and *Tulips* employ different images, they rely on the same stylistic principle: abstract psychological and social experiences are expressed through concrete metaphorical structures. As Leech notes, metaphor creates semantic foregrounding by establishing unexpected relationships between literal and figurative meanings, encouraging readers to reinterpret familiar concepts.² This stylistic process enables Plath to expose the relationship between language, gender, and identity.

The poem *Mirror* constructs female identity through the conceptual metaphor of reflection. The opening statement, "*I am silver and exact. I have no preconceptions*"³, immediately personifies the mirror, allowing an inanimate object to become the speaking subject. Linguistically, the lexical items *silver*, *exact*, and *truthful* belong to a semantic field associated with precision and objectivity, while the first-person narration foregrounds the authority of the mirror itself. According to Axelrod, Plath's mirror poems attempt to construct the poetic self through "figures of voicing" and

¹ Simpson, Paul. *Stylistics: A Resource Book for Students*. London: Routledge. 2004. – P. 41.

² Leech, Geoffrey N. *A Linguistic Guide to English Poetry*. London: Longman. 1969. – P. 153.

³ Plath, Sylvia. *The Collected Poems*, ed. Ted Hughes. New York: Harper Perennial. 1998. – P. 173.

“metaphoric identification in lack”, suggesting that identity remains unstable rather than complete.⁴ The metaphor reaches its culmination in the image of the “terrible fish”, where ageing is represented as a disturbing transformation rather than a natural process. Thus, the metaphor functions stylistically by externalizing psychological self-perception and presenting female identity as continually reconstructed through reflection.

A different stylistic function of metaphor appears in *The Applicant*, where femininity is represented through the extended metaphor of a commercial product. The image “*A living doll, everywhere you look. It can sew, it can cook*”⁵ combines metaphor with reification, reducing the future wife to a functional object. The repeated pronoun *it* replaces the expected feminine pronoun, creating a grammatical marker of dehumanization, while the parallel structure “*It can sew, it can cook, it can talk*” foregrounds usefulness rather than individuality. Britzolakis describes this representation as the image of the “mechanized woman”, whose identity is reduced to domestic functions rather than personal autonomy.⁶ Similarly, Slater argues that Plath portrays woman as the “physical embodiment of commodity culture”, exposing the linguistic mechanisms through which patriarchal discourse commodifies femininity.⁷ Consequently, metaphor becomes a stylistic instrument for revealing how language itself constructs socially acceptable models of womanhood.

The metaphorical patterns developed in *Mirror* and *The Applicant* continue in *Tulips*, although the poem shifts from objectification to psychological reconstruction. The speaker’s declaration, “*I have given my name and my day-clothes up to the nurses*”⁸, conceptualizes identity as a possession that can be surrendered. The cumulative repetition of *my name*, *my history*, and *my body* creates syntactic parallelism that emphasizes gradual self-effacement. At the same time, the lexical opposition between the white hospital environment and the vivid red tulips establishes two contrasting semantic fields representing emotional withdrawal and renewed vitality. Van Dyne interprets the hospital as a “neutral space” where social roles temporarily disappear, while the tulips interrupt this silence by restoring emotional and physical awareness.⁹ Britzolakis likewise observes that the flowers participate in a “chain of metaphors”

⁴ Axelrod, Steven Gould. *Sylvia Plath the Wound and the Cure of Words*. Baltimore: The Johns Hopkins University Press. 1990. – P. 190.

⁵ Plath, Sylvia. *The Collected Poems*, ed. Ted Hughes. New York: Harper Perennial. 1998. – P. 221.

⁶ Britzolakis, Christina. *Sylvia Plath and The Theatre of Mourning*. 1999; New York: Oxford University Press. 2001. – P. 119.

⁷ Slater, Eleanor Catherine. ‘Sylvia Plath and the Containment of Women’s Domestic Identity’.

⁸ Plath, Sylvia. *The Collected Poems*, ed. Ted Hughes. New York: Harper Perennial. 1998. – P. 160.

⁹ Van Dyne, Susan. *Revising Life: Sylvia Plath’s Ariel Poems*. Chapel Hill: The University of North Carolina Press. 1993. – P. 92.

through which the speaker's attempted rejection of social and maternal identities is ultimately challenged.¹⁰ Unlike the mirror or the doll, the tulips do not imprison identity; instead, they reconstruct it through metaphorical confrontation with life itself. Although these poems employ different metaphorical images, they demonstrate a common stylistic strategy. The mirror, the living doll, and the tulips function as different source domains through which Plath conceptualizes female identity. Each metaphor is reinforced by complementary stylistic devices, including personification, lexical repetition, semantic contrast, syntactic parallelism, and foregrounding. Consequently, metaphor functions not only as a figure of speech but also as the principal linguistic mechanism through which the poet represents identity as socially negotiated rather than biologically predetermined.

In conclusion, the comparative analysis demonstrates that metaphor occupies a central position in Sylvia Plath's poetic style. Through conceptual mapping, reification, personification, and lexical opposition, Plath transforms everyday objects into complex representations of feminine subjectivity. The study shows that metaphor performs cognitive, stylistic, and ideological functions simultaneously, allowing the poet to expose the influence of patriarchal discourse while constructing dynamic models of female identity. Therefore, the stylistic analysis of metaphor provides a productive approach to understanding both Plath's poetic language and the linguistic representation of gender in modern American poetry.

References

1. **Axelrod, Steven Gould.** *Sylvia Plath: the Wound and the Cure of Words*. The Johns Hopkins University Press, 1990. – P. 190.
2. **Britzolakis, Christina.** *Sylvia Plath and The Theatre of Mourning*. 1999; Oxford University Press, 2001. – pp. 119, 171.
3. **Leech, Geoffrey N.** *A Linguistic Guide to English Poetry*. Longman, 1969. – P. 153.
4. **Plath, Sylvia.** *The Collected Poems*. Edited by Ted Hughes. Harper Perennial, 1998. – pp. 160, 173, 221.
5. **Simpson, Paul.** *Stylistics: A Resource Book for Students*. Routledge, 2004. – P. 41.
6. **Slater, Eleanor Catherine.** 'Sylvia Plath and the Containment of Women's Domestic Identity'. *Journal of Huddersfield Student Research (Huddersfield)* 8, no. 1 (2022). – P. 6.

¹⁰ Britzolakis, Christina. *Sylvia Plath and The Theatre of Mourning*. 1999; New York: Oxford University Press. 2001. – P. 171.

7. **Van Dyne, Susan.** Revising Life: Sylvia Plath's Ariel Poems. The University of North Carolina Press, 1993. – P. 92.

GENETIC POLYMORPHISMS OF TOLL-LIKE RECEPTOR 4 IN CHILDREN WITH RECURRENT URINARY TRACT INFECTIONS

Zukhriddin Zokirov, Iroda Sa'dullayeva

Bukhara State Medical Institute named after Abu Ali ibn Sino, Bukhara, Uzbekistan

ORCID: <https://orcid.org/0009-0009-7959-9872>

ORCID: <https://orcid.org/0009-0002-2487-3693>

E-mail: zuxriddinzokirov08@gmail.com

E-mail: sq.iroda1985@gmail.com

Abstract

Recurrent urinary tract infections (rUTIs) remain one of the most common bacterial diseases in pediatric practice and are associated with renal scarring, hypertension, and chronic kidney disease. Recent advances in molecular immunology have demonstrated that host genetic factors significantly influence susceptibility to recurrent infections. Among these factors, polymorphisms of the Toll-like receptor 4 (TLR4) gene have attracted considerable attention because of their role in innate immune recognition of Gram-negative bacteria. This review summarizes current evidence regarding the biological role of TLR4 polymorphisms in pediatric recurrent urinary tract infections and discusses their potential clinical application in early diagnosis, risk prediction, and personalized treatment strategies.

Keywords: recurrent urinary tract infection, TLR4, polymorphism, children, innate immunity, genetics.

Introduction

Urinary tract infections affect millions of children worldwide and continue to represent a major public health concern. Although most children recover after appropriate antimicrobial therapy, approximately 30% experience recurrent episodes that increase the risk of permanent renal damage. Clinical observations indicate that recurrence cannot be explained solely by anatomical abnormalities or bacterial virulence. Therefore, increasing attention has been directed toward host genetic susceptibility.

Innate immunity constitutes the first line of defense against uropathogenic microorganisms. Pattern-recognition receptors, particularly Toll-like receptors, play an essential role in recognizing bacterial components and initiating inflammatory responses. Among these receptors, TLR4 is considered one of the most important molecules involved in host defense against *Escherichia coli*, the predominant causative pathogen of pediatric urinary tract infections.

Main Discussion

TLR4 recognizes lipopolysaccharide (LPS), the major component of the outer membrane of Gram-negative bacteria. Activation of TLR4 triggers intracellular signaling pathways involving MyD88 and NF- κ B, leading to the production of pro-inflammatory cytokines including IL-6, IL-8, and TNF- α . These cytokines recruit neutrophils to the site of infection and facilitate bacterial clearance.

Genetic polymorphisms within the TLR4 gene may alter receptor expression or signaling efficiency. Functional variants such as Asp299Gly (rs4986790) and Thr399Ile (rs4986791) have been extensively investigated because they reduce cellular responsiveness to bacterial endotoxins. Consequently, impaired bacterial recognition may contribute to persistent infection and recurrent disease.

Recent systematic reviews and meta-analyses have demonstrated a significant association between TLR4 polymorphisms and susceptibility to recurrent urinary tract infections in several populations. However, the strength of this association varies according to ethnicity, environmental factors, and genetic background. Data from Central Asian pediatric populations remain extremely limited, highlighting the need for regional molecular epidemiological studies.

The identification of TLR4 polymorphisms has important clinical implications. Genetic screening may help identify children at increased risk of recurrent infections before irreversible renal damage develops. Integration of molecular genetic markers with laboratory findings and imaging studies may improve individualized risk stratification and optimize long-term follow-up strategies.

Furthermore, advances in precision medicine suggest that combining genetic biomarkers with artificial intelligence algorithms may significantly improve prediction models for recurrent urinary tract infections. Such approaches could contribute to personalized prevention programs and rational antimicrobial therapy.

Conclusion

TLR4 gene polymorphisms represent promising genetic biomarkers for predicting susceptibility to recurrent urinary tract infections in children. Their identification may facilitate early diagnosis, individualized monitoring, and personalized therapeutic interventions. Future large-scale multicenter studies involving Central Asian populations are required to validate these findings and establish clinically applicable genetic risk models.

References

1. John PP, Mike L, Mysorekar IU, et al. Urinary tract infections in children. *Nature Reviews Urology*. 2026.

2. Yu J, Pereira GMV, Allen-Brady K, et al. Genetic polymorphisms associated with urinary tract infection in children and adults: A systematic review and meta-analysis. *American Journal of Obstetrics and Gynecology*. 2024.
3. Aksu B, Afonso AC, Akil I, et al. Urine soluble TLR4 levels may contribute to predict urinary tract infection in children: The UTILISE Study. *Pediatric Nephrology*. 2024.
4. Sav NM, Eroz R, Kalay DN, et al. Investigation of TLR4 Polymorphism in Children with Vesicoureteral Reflux and Renal Scarring. *Balkan Journal of Medical Genetics*. 2024.
5. Gnech M, et al. Update and Summary of the EAU/ESPU Paediatric Guidelines on Urinary Tract Infection in Children. *Journal of Pediatric Urology*. 2025.
6. Agrawal P, Paunikar VM. Urinary Tract Infection in Children: A Narrative Review. *Cureus*. 2024

PRINCIPLES, STAGES, SYSTEM OF INCLUSIVE EDUCATION AND THE IMPORTANCE OF USING DIGITAL TECHNOLOGIES IN IT

Abdunazarova Zebiniso Khudoyshekurovna

*Termez state pedagogy
institute teacher*

Abstract. This article discusses the theoretical and practical foundations of inclusive education, its principles, stages, and role in the education system. It also analyzes the issues of increasing the effectiveness of inclusive education using digital technologies, creating equal opportunities for students with special educational needs, and introducing modern pedagogical approaches. The results of the study show that artificial intelligence, distance learning platforms, mobile applications, and assistive technologies are important tools for improving the quality of inclusive education.

Keywords: inclusive education, digital technologies, assistive technologies, artificial intelligence, distance learning, equal opportunities, pedagogy, innovation.

Login

In recent years, the development of inclusive education has become one of the priorities in the world education system. Ensuring quality and inclusive education for all people within the framework of the Sustainable Development Goals is one of the important tasks facing the international community. Inclusive education implies that all children, regardless of their physical, psychological, social or intellectual characteristics, receive education together. This approach covers not only children with disabilities, but also students who are in need of social protection, gifted or have different educational needs. The development of digital technologies is taking inclusive education to a new level. Modern platforms, e-learning resources, and assistive technologies make it possible to organize the educational process taking into account the individual needs of students.

Principles of inclusive education

Inclusive education is based on the following key principles:

ensuring equal rights and equal opportunities for all students;

education based on non-discrimination and human rights;

respect for the dignity of each individual;

taking into account individual educational needs;

develop family, school and community partnerships;

use of adapted curricula and a differentiated approach;

use of modern pedagogical and information and communication technologies in the educational process.

These principles serve not only to help students acquire knowledge, but also to help them socialize, prepare for independent living, and actively participate in society.

Stages of inclusive education

Effective organization of inclusive education includes the following steps:

- 1. Diagnostic stage.** The individual capabilities and educational needs of students are identified.
- 2. Planning stage.** Individual educational programs are developed and pedagogical strategies are determined.
- 3. Implementation stage.** An adapted learning process is organized, assistive devices are used.
- 4. Monitoring and evaluation stage.** Learning outcomes are regularly analyzed, and changes are made to the curriculum as needed.

The continuity of these stages is an important factor in ensuring the quality of inclusive education.

Inclusive education system

An inclusive education system consists of the following components:

state policy and regulatory framework;
qualified teachers and special educators;
psychological and pedagogical service;
cooperation with parents;
customized training programs;
modern information and communication infrastructure;
monitoring and quality assessment mechanisms.

Today, many countries are developing national strategies for the development of inclusive education, and digital transformation processes are becoming an integral part of this system.

The importance of using digital technologies in inclusive education

Digital technologies significantly increase the effectiveness of inclusive education. They provide equal access to educational resources and support individualized learning.

The main directions are:

electronic textbooks and interactive learning platforms;
distance learning systems;
personalized learning based on artificial intelligence;
speech-to-text and text-to-speech technologies;
Braille displays and screen reader software;
subtitling and automatic translation systems;

tracking individual development through mobile applications.

For example, screen readers enable visually impaired students to access digital resources. Speech-to-text technologies provide accessibility for students with hearing or writing difficulties. Adaptive platforms based on artificial intelligence automatically recommend tasks appropriate to each student's level of knowledge.

Additionally, virtual labs, augmented (AR), and virtual reality (VR) technologies are enhancing the quality of education by explaining complex topics visually.

Discussion

The integration of digital technologies into inclusive education requires new competencies from educators. Therefore, developing teachers' digital pedagogical competencies, creating and effectively using electronic educational resources are urgent issues.

In addition, the insufficient development of internet infrastructure, limited technical equipment, and the digital literacy of educators are creating problems in some regions. Solving these problems requires cooperation between the state, educational institutions, and international organizations.

Conclusion

Inclusive education is an integral part of the modern education system, which serves to create equal educational opportunities for all students. Digital technologies allow for more effective organization of this process, individualized education, and increase the quality and scope of education. In the future, the widespread use of artificial intelligence, big data, virtual reality, and adaptive learning platforms will be one of the main directions of inclusive education development.

References

1. UNESCO. *Guidelines for Inclusion: Ensuring Access to Education for All* . Paris: UNESCO, 2005.
2. UNESCO. *Global Education Monitoring Report 2024/2025* . Paris: UNESCO.
3. United Nations. *Convention on the Rights of Persons with Disabilities* . New York, 2006.
4. OECD. *Education at a Glance 2024: OECD Indicators* . Paris: OECD Publishing, 2024.
5. Florian, L., & Black-Hawkins, K. *Exploring Inclusive Pedagogy* . British Educational Research Journal, 2011.
6. Ainscow, M. *Developing Inclusive Education Systems* . European Journal of Special Needs Education, 2020.
7. Law of the Republic of Uzbekistan "On Education". Tashkent, 2020.

8. Resolutions and regulatory legal acts of the President of the Republic of Uzbekistan on the development of inclusive education.

PATHOMORPHOLOGICAL FEATURES OF THYROID DISEASE IN NEWBORNS BORN TO MOTHERS WHO HAVE PASSED COVID-19 AMONG THE POPULATION OF THE ARAL REGION.

**Sabirdjanov Sadriddin Bakhromovich.,
Karimov Rasulbek Khasanovich.
Urgench State Medical Institute.**

Relevance of the topic: During the COVID-19 pandemic, it had a serious impact on the health of not only adults but also pregnant women and their newborns. Placental circulation disorders in the mother during pregnancy due to SARS-CoV-2 infection can negatively affect the development of the internal organs and tissues of the fetus through inflammatory processes and immunological changes. For the population living in the Aral Sea region, the environmental crisis, atmospheric air pollution with salt and dust aerosols, iodine deficiency, and other environmental factors can further exacerbate this impact. Therefore, the study of pathomorphological changes in the thyroid gland in newborns born to mothers who have undergone COVID-19 is currently considered an urgent scientific problem in the field of medicine.

Purpose of the work: to determine the pathomorphological and morphometric features of the thyroid gland in newborns born to mothers living in the Aral Sea region who have undergone COVID-19, and to evaluate their interconnection with environmental factors.

Research materials and methods: The study examined pathological anatomical materials of thyroid tissue in newborns born to mothers with a history of COVID-19. Histological studies were performed using hematoxylin-eosin and special dyes. Morphometric analysis evaluated follicular diameter, thyroid cell height, colloidal volume, stroma state, vascular density, and inflammatory infiltration. If necessary, immunohistochemical methods (Ki-67, TTF-1, thyroglobulin, CK19) were used to determine the proliferative activity and functional state of the cells. The results were analyzed statistically.

The results of the study showed that a number of specific pathomorphological changes in the thyroid tissue are observed in newborns born to mothers who have undergone COVID-19. Specifically, uneven follicular volume, a decrease in colloid content in certain follicles, hyperplasia and hypertrophy of thyroid cells, mild fibrosis in the stroma, interstitial edema, and microcirculatory changes were noted. In some cases, lymphocytic infiltration and dystrophic changes in endothelial cells were identified. Morphometric analysis showed that the follicular diameter and epithelial height

differed significantly compared to the control group. These changes may be associated with viral infection during pregnancy and unfavorable environmental factors in the Aral Sea region.

Conclusions: in conclusion, it can be said that pathomorphological changes observed in the thyroid gland in infants born to mothers who have had COVID-19 can affect the functional development of the gland. The ecological characteristics of the Aral Sea region are assessed as one of the additional risk factors contributing to the deepening of these changes. Pathomorphological and morphometric studies are important for the early diagnosis of these newborns, the organization of dispensary observation, and the development of measures for the prevention of endocrine disorders.

References:

1. Юлдашев Б. С. и др. Хомила ва янги туғилган чақалоқлар мурдасининг суд тиббий экспертизаси (Текшируви) //Ўқув қўлланма: Т.:“О ‘ZKITOBSAVDONASHRIYOTI” NMIU. – 2023. – Т. 96.
2. Раджапов А. А. и др. Экстремал кам вазнли чақалоқларда иммун тизими аъзоларининг морфологияси //international scientific innovation research conference. – 2025. – Т. 2. – №. 2. – С. 61-62.
3. Юлдашев Б. С., Каримов Р. Х., Джуманиязова Н. С. Пандемия даврида пневмония касаллиги билан касалланган чақалоқларда лимфа тугунларининг морфологик хусусиятлари ўлим сабаблари //Amaliy va tibbiyot fanlari ilmiy jurnali. – 2024. – Т. 3. – №. 1. – С. 197-201.
4. Юлдашев Б. С., Каримов Р. Х., Джуманиязова Н. С. COVID-19 ўтказган чақалоқларда лимфа тугунларининг морфологик хусусиятлари (Хоразм вилояти патологик анатомия экспертиза бюроси, хоразм вилоят перинатал маркази) //Молодые ученые. – 2024. – Т. 2. – №. 3. – С. 15-16.
5. Джуманиязова Н., Каримов Р. COVID-19 БИЛАН КАСАЛЛАНГАН ХОМИЛАДОР АЁЛЛАРДАН ТУЎГИЛГАН ЧАҚАЛОҚЛАРНИНГ ЛИМФА ТУГУНИДАГИ ПАТОМОРФОЛОГИК ЎЗГАРИШЛАРИ //South Aral Region Medical Journal. – 2026. – Т. 2. – №. 1. – С. 189-192.
6. Абдиразаков И. А., Турсунов Х. З. ҚАЛҚОНСИМОН БЕЗ КАРЦИНОМАЛАРИНИНГ МОРФОМЕТРИК КЎРСАТКИЧЛАРИ //E-Conference platform. – 2025. – Т. 1. – №. 29-noyabr. – С. 86-87.
7. Сабирджанов, С.& Каримов, Р. (2026). ОРОЛБЎЙИ ХУДУДИДА ЯШОВЧИ АХОЛИ ОРАСИДА COVID 19 ЎТКАЗГАН ОНАЛАРДАН ТУЎГИЛГАН ЧАҚАЛОҚЛАРДА ҚАЛҚОНСИМОН БЕЗ КАСАЛЛИГИНИНГ ПАТОМОРФОЛОГИК ХУСУСИЯТЛАРИ. XXI ASRDA INNOVATION

TEKNOLOGIYALAR, FAN VA TA'LIM TARAQQIYOTIDAGI DOLZARB MUAMMOLAR, 4(7), 96–98. <https://doi.org/10.5281/zenodo.21373779>

8. Сабирджанов, С.& Каримов, Р. (2026). ОРОЛБЎЙИ ХУДУДЛАРИДА ҚАЛҚОНСИМОН БЕЗ ЯЛЛИҒЛАНИШ КАСАЛЛИКЛАРИНИНГ КЛИНИК-ЭПИДЕМИОЛОГИК ВА ДЕМОГРАФИК ХУСУСИЯТЛАРИ. JANUBIY OROL BO'YI TIBBIYOT JURNALI, 2(4), 102–107. <https://doi.org/10.5281/zenodo.21477450>

UDC: 617.5-089:617.547-002.44

**ANALYSIS OF ROUTINE METHODS OF PLASTIC SURGERY FOR
PRESSURE SORES IN THE SACRAL REGION**

Rajabov Doston Uktamovich dastanrajabov584@gmail.com
<https://orcid.org/0009-0002-4533-025X>

Bukhara Medical Institute

Abstract: An analysis of postoperative outcomes revealed that traditional methods of plastic closure of soft tissue defects in the sacral region resulted in a high rate of postoperative complications and unsatisfactory surgical outcomes in both groups.

Key words: bed sore, plastic surgery, soft tissue defects.

Relevance. Researchers have conducted scientific studies on the surgical treatment of purulent-inflammatory diseases of soft tissues. The clinical course of this pathology and its surgical correction were studied (1, 3). Modern approaches to the treatment of purulent-necrotic lesions of soft tissues were demonstrated (2, 4). The results of surgical treatment of purulent diseases of soft tissues were studied (3, 5). A number of scientific studies have been conducted in Uzbekistan on the surgical treatment of purulent-inflammatory diseases of soft tissues. The clinical course of this pathology and its surgical correction have been studied (1, 7, 9, 11). Modern approaches to the treatment of purulent-necrotic lesions of soft tissues have been demonstrated (2, 4, 6, 8, 10). The results of surgical treatment of purulent diseases of soft tissues have been studied (1, 11, 13). Certain methods of reconstructive interventions for purulent-inflammatory diseases of soft tissues have been developed (2, 12).

Individual methods of reconstructive interventions for purulent-inflammatory diseases of soft tissues were developed.

The purpose of the study is to analyze Results of traditional methods of plastic closure of soft tissue defects in patients with sacral pressure ulcers.

Material and methods. The results of surgical treatment of 53 patients with sacral pressure ulcers were analyzed.

Results and discussion. The presence of blind cavities with different directions of propagation was initially detected in 8 (27.6%) patients operated on according to Thiersch and in 19 (79.2%) patients in the Limberg group ($\chi^2 = 14.21$; $p < 0.001$). This fact reflects that in patients of the second group, a pronounced volumetric tissue deficiency developed, whereas in the first group, the wound defect was more often superficial in nature without significant deepening.

The wound microbial counts were similar, but clear differences in the microflora structure were identified. Under these conditions, the Limberg technique was chosen to cover the defect, taking into account its depth. This type of surgery was also chosen due to the impossibility of wound closure with a free skin flap, which did not allow for adequate tissue volume replacement.

Laboratory parameters of the systemic inflammatory response in patients in the control group showed differences. Hb levels among patients operated on using the Thiersch method were insignificantly higher. The indicator for the subgroup of patients operated on using the Limberg method does not reflect a significant difference between patients with different sacral wound depths. Although the nature of the granulation tissue varied, we observed in most cases patients with pale granulation tissue and low bleeding when treated with a surgical instrument.

The acute phase of inflammation parameters also showed significant differences, in particular the CRP level was 28.6 ± 6.4 mg/l in the subgroup of patients operated on using the Thiersch method and 36.2 ± 9.8 mg/l in the subgroup of patients who underwent sacral wound closure using the Limberg method ($p < 0.05$), which was combined with an increase in ESR ($p < 0.05$). Cytological characteristics of granulating wounds in patients of the control group, performed on the eve of sacral closure, demonstrated certain differences in the cellular composition depending on the macroscopic picture of the sacral defect and the closure method used. In the subgroup of patients operated on using the Thiersch method, the average proportion of neutrophils was $58.4 \pm 12.3\%$, whereas when using Limberg closure it was higher by $14.2 \pm 2.2\%$ with a statistically significant difference. At the same time, we also found an increase in the content of degenerative forms of neutrophils, which changed from $21.3 \pm 6.8\%$ to $34.5 \pm 9.2\%$, which could reflect more pronounced signs of destruction of the cellular element and the preservation of the activity of the local inflammatory process at the cellular level.

Of cytogram types confirmed the identified differences, especially when the inflammatory cytogram type was recorded 2.3 times more often among patients subsequently operated on using the Limberg method than among patients operated on using the Thiersch method ($\chi^2 = 8.74$; $p = 0.003$).

The conducted analysis of postoperative results showed that when using traditional methods of plastic closure of soft tissue defects of the sacral region, a high frequency of postoperative complications and unsatisfactory results of the operation was observed in both groups. Thus, complete engraftment of the flap was achieved only in 4 patients (13.8%) using the Thiersch method and in 1 patient (4.2%) with Limberg plastic surgery without statistically significant differences ($\chi^2 = 1.34$; $p = 0.247$). Partial

engraftment was noted in 2 (6.9%) and 5 (20.8%) patients, respectively ($\chi^2 = 2.21$; $p = 0.137$), which reflects the differences in the nature of the wound process.

Partial flap rejection was observed in 4 patients (13.8%) in the subgroup operated on using the Thiersch method and in 3 patients (12.5%) in the subgroup after Limberg plastic surgery ($\chi^2 = 0.02$; $p = 0.888$). Epidermal lysis was recorded in 37.9% and 29.2% of cases (in 11 and 7 patients), respectively ($\chi^2 = 0.46$; $p = 0.497$), whereas complete graft rejection was noted in 27.6% and 33.3% of patients ($\chi^2 = 0.21$; $p = 0.646$). The overall complication rate was 86.2% (25 patients) operated on using the Thiersch method and 79.2% (19 patients) after Limberg plastic surgery ($\chi^2 = 0.46$; $p = 0.497$).

When moving on to an integrated assessment of the results, it was found that the proportion of good outcomes remained low and amounted to 13.8% among patients (4 patients) operated on using the Thiersch method and 4.2% (1 patient), respectively, operated on using the Limberg method ($\chi^2 = 1.34$; $p = 0.247$).

Satisfactory results were achieved in 44.8% and 50.0% of patients in the respective subgroups ($\chi^2 = 0.14$; $p = 0.708$), with healing by secondary intention in a significant proportion of cases. Unsatisfactory outcomes were noted in 41.4% and 45.8% of patients (12 and 11 cases in the respective subgroups; $\chi^2 = 0.58$; $p = 0.750$). We observed a similar outcome in the postoperative period in a clinical case where a patient with a superficial pressure ulcer after Thiersch plastic surgery developed areas of epidermal lysis with preservation of the dermal layer on the 4th postoperative day, which required long-term and regular local treatment. Meanwhile, in another clinical case, a patient with a deep defect in the sacral region developed partial flap rejection with the formation of marginal necrosis after Limberg plastic surgery, despite the preserved blood flow in the central part of the transplant.

CONCLUSIONS.

1. The analysis of postoperative results showed that when using traditional methods of plastic closure of soft tissue defects in the sacral region, a high frequency of postoperative complications and unsatisfactory surgical results was observed in both groups.

LITERATURE

1. Abdullazhanov B. R., Sadykov R. A., Yusupov Zh. K. Results of planimetric studies in the treatment of long-term non-healing purulent wounds of soft tissues // Journal of Theoretical and Clinical Medicine. - 2021. - No. 2. - P. 91-97.
2. Baleev M. S. Choice of reconstruction method for bedsores in patients with spinal injury // Bulletin of Surgery. - 2022. - Vol. 181, No. 5. - P. 41-47.

3. Mitish V. A., Paskhalova Yu. S. Reconstructive surgery of chronic wounds // Wounds and wound infections. - 2023. - Vol. 10, No. 2. - P. 5-12.
4. Dogra S., Menon G., Husain J. et al. Lumbosacral rotation flap: a simple method for covering sacral pressure injuries // J Wound Care. - 2024. - Vol. 33, No. 11. - P. 852-855.
5. Khamdamova M.T., Khamidova Sh.Sh. Analysis of the microbiotope of cervicovaginal discharge in women with chronic cervicitis and squamous cell intraepithelial lesions of the cervix//New Day in Medicine 5(91)2026 399-403
https://newdayworldmedicine.com/en/new_day_medicine/5-91-2026
6. Khamdamova M.T., Kuryazova G.K. Sonoelastography in the diagnosis of endometrial cancer//New Day in Medicine 5(91)2026 267-270
https://newdayworldmedicine.com/en/new_day_medicine/5-91-2026
7. Khamdamova M.T., Xalilova M.T. Morphological variants of tissue reaction of the cervical epithelium in human papillomavirus infection in women of reproductive age//New Day in Medicine 4(90)2026 491-494
https://newdayworldmedicine.com/en/new_day_medicine/4-90-2026
8. Khamdamova M.T., Khakimboeva K.A. Ectopic pregnancy – a new look at the problem//New Day in Medicine 11(85)2025 76-80
https://newdayworldmedicine.com/en/new_day_medicine/11-85-2025
9. Khamdamova M.T., Khasanova M.T. Genetic mechanisms of development of endometrial hyperplastic processes in women in menopacteric age//New Day in Medicine 3(77)2025 207-211
https://newdayworldmedicine.com/en/new_day_medicine/3-77-2025
10. Khamdamova M.T., Akramova D.E. Immediate and long-term results of surgical treatment of genital prolapse in elderly women//New Day in Medicine 3(77)2025 201-206
https://newdayworldmedicine.com/en/new_day_medicine/3-77-2025
11. Khamdamova M.T., Umidova N.N. Genetic factors of genital endometriosis//New Day in Medicine 4(78)2025 82-87
https://newdayworldmedicine.com/en/new_day_medicine/4-78-2025
12. Khamdamova M.T., Akramova D.E. Genetic aspects of genital prolapse in women of reproductive age//New Day in Medicine 2(64)2024 420-426
<https://newdayworldmedicine.com/en/article/3758>
13. Norman G., Wong JK, Amin K. et al. Reconstructive surgery for treating pressure ulcers // Cochrane Database Syst Rev. - 2022. - Vol. 10, No. 10. - R. 32.

WATER SECURITY AND TRANSBOUNDARY COOPERATION IN CENTRAL ASIA

Normuhammadov Nurbek Shuhrat o'g'li

Master's Student, Water Diplomacy Program,

University of World Economy and Diplomacy (UWED)

Tashkent Institute of Irrigation and Agricultural Mechanization Engineers (TIAME)

Keywords: *water security, transboundary cooperation, Central Asia, ICWC, IFAS, Amu Darya, Syr Darya, hydro-diplomacy, IWRM.*

Water security has become one of the defining strategic concerns of Central Asia, a region where five states — Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, and Tajikistan — depend on two shared river systems, the Amu Darya and the Syr Darya, for irrigation, energy, and drinking water. Since independence, the inherited Soviet-era water-energy exchange scheme has gradually eroded, exposing the fragility of regional water governance and elevating water security to a matter of national and collective survival rather than mere resource management.

The relevance of this study stems from the growing convergence of three pressures on the region's water systems: rising demographic and agricultural demand, upstream hydropower development in Kyrgyzstan and Tajikistan, and the accelerating impacts of climate change on glacier-fed river flows. These pressures have periodically reignited disputes over reservoir operation regimes — most notably around the Toktogul and Norak facilities — underscoring the limits of the current institutional architecture built around the ICWC (Interstate Commission for Water Coordination) and IFAS (International Fund for Saving the Aral Sea).

The purpose of this research is to examine how the concept of water security can be operationalized within Central Asia's transboundary cooperation framework, and to assess the extent to which existing regional mechanisms are capable of balancing upstream energy interests with downstream irrigation needs. The analysis draws on Integrated Water Resources Management (IWRM) principles and hydro-diplomacy theory, treating water security not as a purely technical issue but as an outcome shaped by power asymmetries, trust-building, and institutional design among riparian states.

The findings indicate that regional cooperation has shown notable improvement in recent years, particularly through renewed dialogue on the Rogun hydropower project, expanded water-energy barter arrangements, and increased engagement of international financial institutions in joint infrastructure planning. However, structural weaknesses persist: IFAS suffers from chronic underfunding and unclear mandate

rotation among member states, while ICWC decisions remain non-binding and highly dependent on political goodwill rather than enforceable legal obligations. Furthermore, the absence of a comprehensive, legally binding basin-wide water-allocation treaty leaves the region vulnerable to unilateral upstream decisions during periods of water scarcity.

In conclusion, achieving durable water security in Central Asia requires moving beyond ad hoc bilateral arrangements toward a strengthened, adequately financed regional institutional framework capable of enforcing agreements, coordinating climate adaptation, and integrating energy and irrigation interests through a Water-Energy-Food nexus approach. Deeper transboundary cooperation, rather than competition over a shrinking resource base, remains the most viable path toward long-term regional stability.

References:

1. Interstate Commission for Water Coordination (ICWC) of Central Asia — Statute and Annual Reports.
2. International Fund for Saving the Aral Sea (IFAS), Reports, 2023–2024.
3. Wegerich, K. Water Resources in Central Asia: Regional Stability or Patchy Sovereignities? // Central Asian Survey, 2008.
4. Bernauer, T., Siegfried, T. Climate change and international water conflict in Central Asia // Journal of Peace Research, 2012.
5. World Bank. Central Asia Water Resources and Climate Change Adaptation. Washington D.C., 2023.
6. UNECE. Water Convention: Central Asia Regional Reporting, 2023.
7. Menga, F. Power and Water in Central Asia. Routledge, 2018.

DEVELOPMENT AND VALIDATION OF A LOGISTIC PREDICTION MODEL FOR PAPILLARY THYROID CARCINOMA BASED ON CLINICAL AND ULTRASOUND PARAMETERS

**Z.S. Kadirova, Bukhara State Medical Institute named after Abu Ali ibn Sina,
Bukhara, Uzbekistan**

Background. Early identification of papillary thyroid carcinoma (PTC) remains one of the major challenges in endocrine oncology. Although thyroid ultrasonography and fine-needle aspiration biopsy are widely used, the diagnostic accuracy of individual methods may be limited, particularly in patients with coexisting autoimmune thyroiditis or indeterminate sonographic findings. Multivariable prediction models integrating clinical and imaging characteristics may improve individualized risk assessment and facilitate clinical decision-making.

Objective. To develop and evaluate a logistic regression model for predicting the probability of papillary thyroid carcinoma using clinical and ultrasonographic variables.

Materials and Methods. A comparative observational study included 90 patients with thyroid diseases treated between 2023 and 2025. The study population consisted of 30 patients with histologically confirmed papillary thyroid carcinoma, 30 patients with autoimmune thyroiditis, and 30 patients with nodular euthyroid goiter.

All participants underwent clinical examination, thyroid ultrasonography with TI-RADS classification, shear wave elastography, laboratory assessment of thyroid function, and determination of thyroid autoantibodies. Logistic regression analysis was applied to identify independent predictors of papillary thyroid carcinoma. Model discrimination was assessed using receiver operating characteristic (ROC) analysis, whereas calibration was evaluated with the Hosmer–Lemeshow goodness-of-fit test.

Results. Multivariable logistic regression identified patient age and TI-RADS category as independent predictors of papillary thyroid carcinoma.

The developed prediction model demonstrated excellent diagnostic performance, achieving an area under the receiver operating characteristic curve (AUC) of 0.972 (95% CI: 0.938–1.000), with a sensitivity of 93.1% and a specificity of 96.7%. Model calibration was satisfactory, as confirmed by the Hosmer–Lemeshow goodness-of-fit test ($p = 0.888$). The optimal probability threshold determined by the Youden index was 32.2%, providing the highest combined sensitivity and specificity.

These findings indicate that combining routinely available clinical and ultrasonographic parameters allows highly accurate prediction of papillary thyroid carcinoma before surgical treatment.

Conclusions

The proposed logistic prediction model demonstrated excellent discrimination and calibration for identifying papillary thyroid carcinoma. Incorporating patient age and TI-RADS classification into a multivariable model may improve preoperative risk stratification and support clinical decision-making in patients with thyroid nodules.

MORPHOGENESIS OF ATELECTASES IN THERMAL LUMEN DAMAGE (EXPERIMENTAL STUDY).

**Jumanazarov Dostonbek Dilshod ugli., Karimov Rasulbek Khasanovich.,
Sultanov Bektemur Bakhramovich.
Urgench State Medical Institute.**

Relevance of the topic: Thermal injuries cause severe pathophysiological changes in the organism of rats. In this case, their respiratory system is one of the most frequently affected organs, with impaired microcirculation in the lungs, edema of alveolar walls, impaired surfactant system function, and the development of atelectasis. Atelectasis reduces the gas exchange surface of the lungs, creating a prerequisite for the development of acute respiratory failure and polyorgan failure. Therefore, the study of the morphogenesis of atelectases in rat lungs under the influence of heat under experimental conditions is of great scientific and practical importance.

Purpose of the work: to determine the stages of morphogenetic development of atelectases in the lungs of rats during experimental thermal injury and their morphological characteristics.

Research materials and methods: The study was conducted under conditions of simulated thermal injury in laboratory animals. Morphological studies of lung tissue from the control and experimental groups were conducted on days 1, 3, 7, and 14. Histological sections were stained using hematoxylin-eosin and Van Gieson methods. Morphometric analysis assessed the area of atelectasis, alveolar diameter, interstitial edema, and microcirculatory changes in the blood vessels.

Results obtained: In the early stages of thermal damage, interstitial and alveolar edema, blood congestion in the capillaries, and microhemorrhages were detected in the rats' lungs. In subsequent stages, as a result of surfactant deficiency and alveolar collapse, foci of atelectasis of various sizes were formed. Inflammatory infiltration around atelectasis, thickening of alveolar septa, and microcirculation disorders intensified. In the late stages of observation, signs of fibrosis were also noted in certain areas. Morphometric analysis showed a statistically significant increase in the area of atelectasis over time ($p < 0.05$).

Conclusion: in conclusion, it can be said that experimental thermal damage forms the morphogenesis of atelectasis through impaired microcirculation in the lungs, interstitial edema, surfactant system dysfunction, and alveolar collapse. Identifying early morphological signs of atelectasis and the patterns of their gradual development

is of great importance for the early diagnosis and prevention of pulmonary complications in severe burn injuries.

References:

1. Herndon D.N. Total Burn Care. 6th ed. Philadelphia: Elsevier, 2023. – 992 p.
2. Matute-Bello G., Downey G., Moore B.B., et al. An official American Thoracic Society workshop report: Features and measurements of experimental acute lung injury in animals. American Journal of Respiratory Cell and Molecular Biology. 2011;44(5):725–738.
3. Ware L.B., Matthay M.A. The acute respiratory distress syndrome. New England Journal of Medicine. 2000;342(18):1334–1349.
4. Thompson B.T., Chambers R.C., Liu K.D. Acute Respiratory Distress Syndrome. New England Journal of Medicine. 2017;377(6):562–572.
5. Weibel E.R. Morphometry of the Human Lung. Berlin: Springer-Verlag, 1963. – 151 p.
6. Junqueira L.C., Carneiro J. Basic Histology: Text and Atlas. 16th ed. New York: McGraw-Hill Education, 2021. – 608 p.
7. Автандилов Г.Г. Основы количественной патологической анатомии. Москва: Медицина, 2002. – 240 с.
8. Пальцев М.А., Иванов А.А. Патологическая анатомия. Москва: ГЭОТАР-Медиа, 2022. – 1264 с.
9. Струков А.И., Серов В.В. Патологическая анатомия. 6-е изд. Москва: ГЭОТАР-Медиа, 2019. – 880 с.
10. Шабалов Н.П. Неотложная пульмонология и респираторная медицина. Санкт-Петербург: СпецЛит, 2021. – 640 с.
11. Арипов У.А., Каримов Ш.И. Патологик анатомия. Тошкент: Янги аср авлоди, 2021. – 560 б.
12. Жуманазаров, Д., Каримов, Р. & Султанов, Б. (2026). ЎПКАНИНГ ИССИҚЛИК ТАЪСИРИДА ШИКАСТЛАНИШИДА АТЕЛЕКТАЗЛАР МОРФОГЕНЕЗИ (ЭСПЕРИМЕНТАЛ ТАДҚИҚОТ). YANGI O'ZBEKISTONDA TABIIY VA IJTIMOIIY-GUMANITAR FANLAR" RESPUBLIKA ILMIY-AMALIY KONFERENSIYASI, 4(7), 117–118. <https://doi.org/10.5281/zenodo.21683019>

CLINICAL EFFECTIVENESS OF 3D COMPUTER-ASSISTED PLANNING AND DIGITAL SURGICAL TECHNOLOGIES IN THE TREATMENT OF FEMORAL NECK FRACTURES

Murodjon Ergashevich Irismetov

Director of TFD, Professor

E-mail: murod.iris@mail.ru

0009-0004-2122-9012

0000-0003-1795-2350

Shuhrat Urazaliyevich Usmonov

PhD, Republican Specialized Scientific and Practical Medical Center of

Traumatology and Orthopedics

Dr.shuxrat2025@gmail.com

0009-0005-3712-1185

Anvar Melikmuratovich Rakhimov

PhD, Republican Specialized Scientific and Practical Medical Center of Traumatology
and Orthopedics

anvar1986-2006@mail.ru

0009-0003-0948-1859

Javohir Shokirmuhammad o'g'li Yormatov

Republican Specialized Scientific and Practical Medical Center of Traumatology and
Orthopedics

iyormatov63@gmail.com

0009-0000-2369-8008

Abstract: Femoral neck fractures remain one of the most challenging injuries in orthopedic trauma surgery due to their high incidence of complications, including nonunion and avascular necrosis of the femoral head. Recent advances in three-dimensional (3D) computer-assisted planning and digital surgical technologies have significantly improved the precision of preoperative assessment and intraoperative decision-making. This study highlights the clinical effectiveness of 3D computer-assisted planning in the surgical management of femoral neck fractures. The application of virtual 3D reconstruction enables detailed visualization of fracture morphology, accurate selection of implant positioning, and individualized surgical planning based on patient-specific anatomy. These technologies contribute to improved reduction accuracy, shorter operative time, decreased intraoperative blood loss, and a lower risk of postoperative complications. The integration of digital surgical

techniques into orthopedic practice represents a promising strategy for enhancing clinical outcomes and accelerating functional recovery in patients with femoral neck fractures.

Keywords: femoral neck fracture, three-dimensional computer-assisted planning, 3D reconstruction, digital surgery, orthopedic trauma, preoperative planning, internal fixation, computer tomography, clinical effectiveness, personalized orthopedic surgery.

Femoral neck fractures represent a major challenge in orthopedic and trauma surgery because of their complex anatomical structure, limited blood supply to the femoral head, and the high incidence of postoperative complications. Successful treatment depends not only on achieving anatomical reduction but also on precise preoperative planning and appropriate implant selection. Conventional radiographic assessment often provides insufficient information regarding the three-dimensional configuration of the fracture, which may negatively affect surgical accuracy. The introduction of three-dimensional (3D) computer-assisted planning has significantly improved the management of femoral neck fractures. High-resolution computed tomography (CT) data are used to generate patient-specific 3D models, allowing surgeons to evaluate fracture geometry from multiple perspectives before surgery. Virtual reconstruction enables accurate assessment of fragment displacement, optimization of reduction strategies, and simulation of implant placement without exposing the patient to additional procedural risks. Digital surgical technologies also facilitate individualized treatment planning by considering the anatomical characteristics of each patient. Preoperative simulation assists in determining the optimal trajectory, length, and orientation of fixation devices, thereby increasing the stability of osteosynthesis and reducing the likelihood of implant malposition. As a result, operative time, intraoperative fluoroscopy, and blood loss can be reduced, while surgical precision and postoperative functional outcomes are improved. The integration of 3D computer-assisted planning with digital surgical techniques represents an important advancement in modern orthopedic practice. These technologies support more accurate clinical decision-making, enhance surgical safety, and contribute to faster rehabilitation and better long-term recovery for patients with femoral neck fractures. Continued implementation of digital planning systems is expected to further improve the quality and effectiveness of orthopedic trauma care.

Conclusion

Three-dimensional computer-assisted planning and digital surgical technologies have become valuable tools in the management of femoral neck fractures. Their application improves the accuracy of fracture assessment, facilitates individualized surgical

planning, and enhances the precision of implant positioning. These innovations contribute to shorter operative time, reduced intraoperative complications, and improved functional recovery. The integration of digital technologies into orthopedic trauma surgery represents an important step toward personalized and evidence-based patient care. Further clinical studies involving larger patient populations are recommended to validate the long-term effectiveness and cost-efficiency of these technologies in routine orthopedic practice.

References:

1. Court-Brown C. M., Heckman J. D., McQueen M. M., Ricci W. M., Tornetta P., McKee M. D. Rockwood and Green's Fractures in Adults. 9th ed. Philadelphia: Wolters Kluwer; 2020.
2. Canale S. T., Beaty J. H. Campbell's Operative Orthopaedics. 14th ed. Philadelphia: Elsevier; 2021.
3. Solomon L., Warwick D., Nayagam S. Apley's System of Orthopaedics and Fractures. 10th ed. Boca Raton: CRC Press; 2018.
4. Meinberg E. G., Agel J., Roberts C. S., Karam M. D., Kellam J. F. Fracture and Dislocation Classification Compendium—2018. Journal of Orthopaedic Trauma. 2018;32(Suppl. 1):S1–S170.
5. Bhandari M., Swiontkowski M. Management of femoral neck fractures: Current concepts and future perspectives. The Lancet. 2017;389(10078):1519–1530.
6. Zhang Y., Tang P., Wang P., et al. Three-dimensional computer-assisted planning in the surgical treatment of femoral neck fractures: A clinical evaluation. Journal of Orthopaedic Surgery and Research. 2022;17:312.
7. Wang C., Li Y., Zhao X., et al. Clinical application of digital orthopedic technology and three-dimensional reconstruction in fracture surgery. BMC Musculoskeletal Disorders. 2021;22:635.
8. AO Foundation. AO Surgery Reference: Femoral Neck Fractures. Davos, Switzerland: AO Foundation.
9. Three-dimensional virtual planning improves surgical precision in orthopedic trauma: A systematic review. Injury. 2023;54(4):1180–1188.
10. Digital technologies and personalized approaches in orthopedic surgery: Current achievements and future directions. International Orthopaedics. 2024;48(2):415–424.

DESIGNING THE CONCEPT OF MANAGEMENT IN EDUCATION: A STRATEGIC AND SYSTEMIC APPROACH

Rustamov Jahongir Rustamovich, Director of School No. 52 in
Buxoro District, Buxoro Region, Republic of Uzbekistan.

Abstract: The contemporary educational landscape is characterized by rapid technological advancements, shifting demographic dynamics, and evolving societal expectations. In this context, traditional administrative models are no longer sufficient. This paper explores the process of "designing the concept of management in education," shifting the focus from mere operational administration to the strategic architectural design of educational systems. By integrating systems theory, design thinking, and modern leadership paradigms, this article proposes a comprehensive framework for conceptualizing educational management. It examines the core components of this design, including structural alignment, cultural architecture, and digital integration. Furthermore, it outlines a practical methodology for designing and implementing a management concept within educational institutions, highlighting the transition toward agile, learning-oriented ecosystems.

Keywords: educational management design, organizational architecture, pedagogical leadership, systems thinking, agile management, learning organization, strategic planning.

Introduction. The paradigm of educational management has undergone a profound transformation over the last few decades. Historically, the management of educational institutions was heavily influenced by industrial-era models, characterized by rigid hierarchies, standardized procedures, and a top-down chain of command. However, the 21st century has introduced unprecedented complexity into the educational sphere. Schools and universities are no longer isolated entities; they are complex adaptive systems operating within dynamic socio-economic and technological ecosystems. Consequently, the mere "application" of generic management principles is inadequate. Educational leaders and policymakers must actively design the concept of management tailored to their specific institutional contexts. Designing a management concept in education goes beyond drafting strategic plans; it involves architecting the very DNA of the institution—its culture, structures, processes, and human interactions. It requires a shift from viewing management as a set of administrative tasks to viewing it as a deliberate, systemic design process aimed at optimizing teaching and learning outcomes.

This paper aims to dissect the theoretical and practical dimensions of designing the concept of management in education. It will explore the theoretical underpinnings of this design process, identify its core components, examine modern paradigms shaping its evolution, and propose a methodological framework for its implementation.

To design a robust concept of educational management, one must first understand the theoretical shift from traditional administration to systemic design.

Classical management theories, such as those proposed by Frederick Taylor (Scientific Management) and Henri Fayol (Administrative Theory), viewed organizations as mechanistic entities. When applied to education, this resulted in bureaucratic models where the principal or rector acted primarily as a compliance officer. While this ensured basic operational stability, it stifled innovation, ignored the nuanced human elements of teaching, and failed to adapt to external changes.

Modern educational management design is deeply rooted in Systems Theory. As articulated by Peter Senge in his seminal work on learning organizations, a school or university must be viewed as a complex system where every part is interconnected. Designing management in this context means understanding feedback loops, recognizing the interdependence of teaching, learning, and administration, and fostering systemic thinking among leaders. Educational institutions are "Complex Adaptive Systems" (CAS), meaning their outcomes emerge from the interactions of multiple agents (teachers, students, parents) rather than from top-down directives. Therefore, the management concept must be designed to facilitate these interactions rather than control them.

Recently, "Design Thinking"—a methodology originally developed for product and service innovation—has been adapted for educational leadership. Design thinking emphasizes empathy, ideation, prototyping, and testing. When applied to educational management, it means designing management structures and processes with the end-user in mind: the student and the teacher. It shifts the focus from "how do we manage this school?" to "how do we design a management system that best supports the learning experience?"

Designing a comprehensive concept of management in education requires architecting several interconnected layers. A well-designed educational management concept comprises four core components:

The foundation of any management design is a clear, compelling vision. However, in a designed concept, the vision is not just a static statement on a wall; it is an operational compass. Designing this component involves aligning the institution's mission with the broader goals of sustainable development, digital literacy, and global citizenship.

It requires translating abstract educational philosophies into concrete, measurable strategic objectives.

The organizational structure dictates how information flows, how decisions are made, and how resources are allocated. Traditional pyramidal structures are being replaced by flatter, more networked designs.

Distributed Leadership: Designing management involves distributing leadership responsibilities across the institution. It empowers teacher-leaders, department heads, and even students to take ownership of specific initiatives.

Professional Learning Communities (PLCs): The structure must be designed to foster collaboration. PLCs serve as the structural nodes where teachers collaboratively analyze student data, refine pedagogical practices, and share expertise.

Management is not just about structures; it is about culture. Designing the cultural aspect of educational management involves intentionally shaping the values, beliefs, and behavioral norms of the institution. A well-designed management concept fosters a culture of psychological safety, where educators feel safe to take pedagogical risks, innovate, and learn from failures without fear of punitive administrative actions. Trust, transparency, and inclusivity are the foundational pillars of this cultural design.

Modern educational management extends beyond the physical boundaries of the school. Designing the concept involves mapping and integrating the broader educational ecosystem. This includes forging strategic partnerships with local businesses, higher education institutions, community organizations, and parents. The management concept must design mechanisms for stakeholder engagement, ensuring that external resources and expertise are seamlessly integrated into the educational process.

As we navigate the mid-2020s, several macro-trends are fundamentally altering how educational management concepts are designed.

The integration of Artificial Intelligence (AI), Learning Management Systems (LMS), and Enterprise Resource Planning (ERP) systems has revolutionized educational management. Designing a modern management concept necessitates a robust digital infrastructure.

Predictive Analytics: Management concepts now incorporate data-driven decision-making. By analyzing student performance data, attendance patterns, and engagement metrics, leaders can proactively identify at-risk students and allocate interventions effectively.

Automating the Administrative: A key design principle in the digital age is the automation of routine administrative tasks (scheduling, grading, reporting). This frees

up cognitive resources, allowing educational leaders and teachers to focus on what truly matters: pedagogy and human connection.

Borrowed from software development, "Agile" methodology is increasingly being applied to educational management. Traditional strategic plans are often rigid and reviewed only annually. In contrast, an agile management design utilizes iterative cycles (sprints). Educational teams set short-term goals, implement micro-interventions, review the outcomes rapidly, and pivot if necessary. This design makes the institution highly responsive to immediate challenges, such as sudden shifts in public health or rapid technological disruptions.

The design of educational management is moving away from the concept of "schooling" (a standardized, time-bound process) to "learning ecosystems" (personalized, continuous, and ubiquitous). Management concepts must therefore be designed to support personalized learning pathways. This requires flexible scheduling, modular curriculum design, and assessment systems that measure competency and skill acquisition rather than mere seat time.

To transition from theory to practice, educational institutions need a structured methodology for designing their management concept. The following four-phase framework provides a practical roadmap for educational leaders and policymakers.

Phase 1: Diagnostic and Empathic Discovery Before designing, one must understand the current state. This phase involves conducting a comprehensive institutional audit.

Action: Utilize surveys, focus groups, and data analytics to understand the pain points of teachers, students, and parents.

Goal: Identify bottlenecks in the current management system, assess the institutional culture, and map the existing resource landscape. Empathy mapping is crucial here to ensure the design addresses the actual needs of the educational community.

Phase 2: Conceptualization and Co-Creation The design of the management concept should not be a top-down mandate. It must be co-created with key stakeholders.

Action: Establish a "Design Task Force" comprising administrators, lead teachers, student representatives, and parents. Use design thinking workshops to brainstorm structural and cultural changes.

Goal: Draft the core pillars of the new management concept. Define the new vision, redesign the organizational chart to promote distributed leadership, and establish new protocols for communication and decision-making.

Phase 3: Prototyping and Piloting A major flaw in traditional educational reforms is the "big bang" implementation, which often leads to systemic failure. A designed concept should be prototyped.

Action: Select a specific department, grade level, or pilot project to test the new management protocols. For example, if the new concept introduces agile management, pilot it in the science department for one semester.

Goal: Gather real-time feedback, identify unforeseen friction points, and refine the management design before institution-wide rollout.

Phase 4: Scaling, Institutionalization, and Continuous Evaluation Once the prototype is refined, the concept is scaled across the institution.

Action: Develop comprehensive professional development programs to train all staff in the new management paradigms. Update institutional policies, job descriptions, and evaluation metrics to align with the new design.

Goal: Embed the new management concept into the institutional DNA. Establish a continuous feedback loop (using digital dashboards and regular climate surveys) to ensure the management system remains adaptive and effective over time.

Designing a new concept of management in education is a formidable undertaking, fraught with inherent challenges. The most significant barrier is often cultural resistance. Educators and administrators accustomed to traditional hierarchies may view distributed leadership or agile methodologies as a loss of control or an increase in workload. Overcoming this requires exceptional change management skills, emphasizing the "why" behind the design and celebrating early wins.

Another critical challenge is the "technology trap." In designing digital management systems, there is a risk of prioritizing technological capabilities over pedagogical needs. A successful design must ensure that technology serves as an enabler of human connection and pedagogical innovation, not as a mechanism for increased surveillance or bureaucratic burden. Furthermore, the success of a designed management concept relies heavily on the capacity building of educational leaders. Principals and deans must transition from being mere managers of compliance to becoming "learning architects." This requires robust, ongoing professional development focused on systems thinking, emotional intelligence, and data literacy.

Critical success factors include unwavering commitment from the top leadership, active involvement of the teaching staff in the design process, and the establishment of a culture that views failure not as a punishable offense, but as a vital data point for iterative improvement.

Conclusion. The design of the concept of management in education represents a critical frontier in the ongoing evolution of educational systems. As institutions grapple with the complexities of the 21st century, the reliance on outdated, industrial-era administrative models is no longer viable. Designing a management concept requires

a holistic, systemic approach that integrates strategic vision, structural agility, cultural empowerment, and technological enablement.

By shifting the paradigm from traditional administration to intentional, human-centric design, educational institutions can create environments that are not only efficient but also deeply adaptive and innovative. The methodological framework proposed in this paper offers a practical pathway for educational leaders to architect management systems that truly serve the ultimate goal of education: the holistic development and empowerment of every learner. Ultimately, a well-designed educational management concept is not an end in itself, but the vital scaffolding upon which the future of learning is built.

REFERENCES:

1. Bush, T. (2021). *Theories of Educational Leadership and Management* (5th ed.). SAGE Publications.
2. Fullan, M., & Langworthy, M. (2014). *A Rich Seam: How New Pedagogies Find Deep Learning*. Pearson.
3. Hargreaves, A., & Fullan, M. (2020). *Professional Capital: Transforming Teaching in Every School* (2nd ed.). Teachers College Press.
4. Leithwood, K., Harris, A., & Hopkins, D. (2020). "Seven strong claims about successful school leadership revisited." *School Leadership & Management*, 40(1), 5-22.
5. OECD. (2023). *Empowering and Supporting School Leaders in the Digital Age*. OECD Publishing, Paris.
6. Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., & Kleiner, A. (2012). *The Fifth Discipline Fieldbook: Methods and Tools for Building a Learning Organization*. Crown Business.
7. Spillane, J. P. (2006). *Distributed Leadership*. Jossey-Bass.
8. Timperley, H. (2021). "Realizing the power of professional learning." *Educational Research for Policy and Practice*, 20, 115-128.
9. UNESCO. (2024). *Global Education Monitoring Report: Leadership and Management in the Era of AI and Digital Transformation*. Paris: UNESCO.
10. Wallace, M., & Hall, V. (2022). "Designing the future school: Architectural and managerial innovations." *Journal of Educational Administration*, 60(3), 245-261.
11. Watkins, C. (2023). *The First 90 Days: Proven Strategies for Getting Up to Speed Faster and Smarter, in Education and Beyond*. Harvard Business Review Press.
12. Ylimaki, R. M., & Jacobson, S. L. (2013). *US School Leadership in an Era of Accountability and Reform: Navigating the Political Landscape*. Routledge.

ПОЛИМОРФИЗМ C-786T ГЕНА NOS3 КАК ГЕНЕТИЧЕСКИЙ ФАКТОР РИСКА РАЗВИТИЯ ИШЕМИЧЕСКОЙ БОЛЕЗНИ СЕРДЦА.

Хамидов Диёрбек Абдуллаевич,

доцент кафедры “Пропедевтики внутренних болезней” Андижанского
Государственного Медицинского Института Телефон: +998914770405

d.abdullaevich@gmail.com

Мусашайхов Умиджон Хусанбаевич

Андижанский Государственный Медицинский Институт

Набиева Дилдора Абдумаликовна

Ташкентская Медицинская Академия

Бобоев Кодиржон Тухтабаевич

Республиканский специализированный научно-практический центр
гематологии МЗ РУз

АННОТАЦИЯ: Эндотелий играет ключевую роль в регуляции сосудистого тонуса и поддержании сосудистого гомеостаза. Особый интерес представляет полиморфизм **C-786T** гена **NOS3**, расположенный в промоторной области гена и потенциально способный влиять на уровень его экспрессии и активность синтеза оксида азота. Генетические варианты данного полиморфизма могут определять индивидуальные особенности функционирования эндотелия и формировать различную степень предрасположенности к развитию сердечно-сосудистых заболеваний. Несмотря на многочисленные исследования, результаты оценки ассоциации полиморфизма **C-786T** гена **NOS3** с развитием ИБС остаются неоднозначными и могут различаться в зависимости от этнических, популяционных и клинических особенностей обследуемых групп. В связи с этим изучение распределения аллелей и генотипов данного полиморфизма и их взаимосвязи с развитием ИБС представляет актуальное направление современной молекулярной кардиологии.

КЛЮЧЕВЫЕ СЛОВА: ишемическая болезнь сердца, ген **NOS3**, полиморфизм **C-786T**, эндотелиальная дисфункция, эндотелиальная NO-синтаза, оксид азота, генетическая предрасположенность, молекулярно-генетический маркер, коронарный атеросклероз.

В исследование были включены 210 пациентов с ишемической болезнью сердца, которые были распределены на две группы. В первую группу вошли 103 пациента с нестабильной, включая прогрессирующую, стенокардией, во вторую — 107 пациентов со стабильной стенокардией напряжения I–IV

функционального класса. Контрольную группу для проведения генетического исследования составили условно здоровые лица, не имевшие в анамнезе ишемической болезни сердца и других сердечно-сосудистых заболеваний, а также не имевшиеотягощенного семейного анамнеза по указанным заболеваниям. В ходе исследования использовали общеклинические, биохимические, инструментальные, молекулярно-генетические и статистические методы исследования.

Для изучения молекулярно-генетических особенностей риска развития ишемической болезни сердца у обследованных пациентов проводили генотипирование полиморфизма **C-786T** гена **NOS3**, кодирующего эндотелиальную NO-синтазу и участвующего в регуляции эндотелиальной функции и сосудистого тонуса. Генотипирование осуществляли методом полимеразной цепной реакции с детекцией аллелей.

Сравнительный анализ распределения аллелей и генотипов полиморфизма **C-786T** гена **NOS3** между пациентами основной группы и участниками группы сравнения позволил оценить возможное значение данного локуса в развитии ишемической болезни сердца.

Согласно результатам проведенного исследования, среди 210 участников основной группы частота аллеля **C**, относящегося к группе риска, составила **26,7%**, тогда как среди участников группы сравнения частота данного минорного аллеля была значительно ниже и составила **17,6%** ($\chi^2 = 6,3$; $p = 0,01$). Частота минорного аллеля **C** в группе пациентов была достоверно выше в 1,7 раза по сравнению с группой сравнения ($OR = 1,7$; 95% CI: 1,13–2,57). Полученные результаты позволяют предположить, что данный генетический вариант, вследствие снижения промоторной активности, может приводить к уменьшению экспрессии eNOS и снижению продукции оксида азота, усилению вазоконстрикции, формированию эндотелиальной дисфункции и ускорению атеросклеротических процессов, тем самым способствуя повышению риска развития ИБС и выступая в качестве потенциального наследственного триггерного фактора.

При анализе распределения генотипов данного генетического варианта была выявлена аналогичная тенденция. Частота мутантного генотипа **C/C** в основной группе составила **8,1%**, тогда как в референсной группе данный генотип встречался в **3,8%** случаев. Несмотря на отсутствие статистически значимых различий между группами, значение отношения шансов, превышающее 1, свидетельствовало о выраженной тенденции к повышению вероятности развития

ИБС у носителей данного генотипа в **2,2 раза** ($\chi^2 = 2,1$; $p = 0,29$; OR = 2,2; 95% CI: 0,75–6,61).

Гетерозиготный генотип **С/Т** также встречался чаще в основной группе пациентов по сравнению с условно здоровыми участниками и составил соответственно **37,1% против 27,6%**. Это может свидетельствовать о том, что даже наличие одного неблагоприятного аллеля **С** потенциально способно оказывать негативное влияние на функцию эндотелия. Вместе с тем сохранение благоприятного аллеля **Т** в составе гетерозиготного генотипа может обеспечивать определенный компенсаторный эффект в отношении сосудистого спазма, вследствие чего относительный риск развития ИБС может быть ниже по сравнению с носителями мутантного генотипа **С/С**. Таким образом, у носителей гетерозиготного генотипа **С/Т** отмечалась тенденция к повышению риска развития ИБС в 1,5 раза ($\chi^2 = 2,8$; $p = 0,17$; OR = 1,5; 95% CI: 0,93–2,58).

В то же время благоприятный аллель **Т** и гомозиготный генотип дикого типа **Т/Т** значительно чаще встречались среди условно здоровых лиц по сравнению с пациентами основной группы с ИБС — соответственно **82,4% против 73,3%** и **68,6% против 54,8%**. Это может свидетельствовать о сохранении более высокой функциональной активности гена **NOS3** у носителей данного аллеля и генотипа, что способствует поддержанию достаточного уровня синтеза оксида азота. Более высокая функциональная активность данного генетического варианта обеспечивает адекватную вазодилатацию коронарных сосудов и может обуславливать его протективное влияние в отношении развития ИБС ($\chi^2 = 6,3$; $p = 0,01$; OR = 0,6; 95% CI: 0,39–0,89 и $\chi^2 = 5,5$; $p = 0,01$; OR = 0,6; 95% CI: 0,34–0,91 соответственно).

Список использованной литературы:

1. Jaramillo, P. C. Polymorphisms of the NOS3 gene in Southern Chilean subjects with coronary artery disease and controls / P. C. Jaramillo, C. Lanas, F. Lanas [et al.]. // *Clinica Chimica Acta*. – 2010. – Vol. 411, No. 3–4. – P. 258–262. – DOI: **10.1016/j.cca.2009.11.018**.
2. Kong, X.-Z. The Endothelial Nitric Oxide Synthase Gene T-786C Polymorphism Increases Myocardial Infarction Risk: A Meta-Analysis / X.-Z. Kong, Z.-Y. Zhang, L.-H. Wei [et al.]. // *Medical Science Monitor*. – 2017. – Vol. 23. – P. 759–766. – DOI: **10.12659/MSM.899905**.
3. Li, J. The endothelial nitric oxide synthase gene is associated with coronary artery disease: a meta-analysis / J. Li, X. Wu, X. Li [et al.]. // *Cardiology*. – 2010. – Vol. 116, No. 4. – P. 271–278. – DOI: **10.1159/000316063**.

4. Liu, D. Association between the $-786T>C$ polymorphism in the promoter region of endothelial nitric oxide synthase (eNOS) and risk of coronary artery disease: a systematic review and meta-analysis / D. Liu, Z. Jiang, L. Dai [et al.]. // *Gene*. – 2014. – Vol. 545, No. 1. – P. 175–183. – DOI: [10.1016/j.gene.2013.09.099](https://doi.org/10.1016/j.gene.2013.09.099).
5. Rai, H. Association of Endothelial Nitric Oxide Synthase Gene Polymorphisms with Coronary Artery Disease: An Updated Meta-Analysis and Systematic Review / H. Rai, F. Parveen, S. Kumar [et al.]. // *PLOS ONE*. – 2014. – Vol. 9, No. 11. – Article e113363. – DOI: [10.1371/journal.pone.0113363](https://doi.org/10.1371/journal.pone.0113363).

ИССЛЕДОВАНИЕ АССОЦИАЦИИ ПОЛИМОРФИЗМА LYS198ASN (G>T) ГЕНА EDN1 С РАЗВИТИЕМ ИШЕМИЧЕСКОЙ БОЛЕЗНИ СЕРДЦА.

Хамидов Диёрбек Абдуллаевич,

доцент кафедры “Пропедевтики внутренних болезней” Андижанского
Государственного Медицинского Института Телефон: +998914770405

d.abdullaevich@gmail.com

Мусашайхов Умиджон Хусанбаевич

Андижанский Государственный Медицинский Институт

Набиева Дилдора Абдумаликовна

Ташкентская Медицинская Академия

Бобоев Кодиржон Тухтабаевич

Республиканский специализированный научно-практический центр
гематологии МЗ РУз

АННОТАЦИЯ: Ишемическая болезнь сердца является многофакторным заболеванием, в развитии которого важную роль играют нарушения эндотелиальной функции и генетическая предрасположенность. В настоящем исследовании проведена оценка полиморфизма Lys198Asn (G>T) гена EDN1, кодирующего эндотелин-1 — один из ключевых регуляторов сосудистого тонуса и эндотелиальной функции, а также изучена его взаимосвязь с риском развития ишемической болезни сердца. Полученные результаты позволили оценить ассоциацию различных генотипов гена EDN1 с развитием ишемической болезни сердца. Исследование молекулярно-генетических факторов, связанных с эндотелиальной дисфункцией, может способствовать совершенствованию раннего прогнозирования риска ишемической болезни сердца и развитию персонализированного подхода к профилактике и лечению заболевания.

КЛЮЧЕВЫЕ СЛОВА: ишемическая болезнь сердца, ген EDN1, полиморфизм Lys198Asn (G>T), эндотелиальная дисфункция, эндотелин-1, генетическая предрасположенность, молекулярно-генетический маркер, коронарный атеросклероз.

В исследование были включены 210 пациентов с ишемической болезнью сердца, которые были распределены на две группы. В первую группу вошли 103 пациента с нестабильной, включая прогрессирующую, стенокардией, во вторую — 107 пациентов со стабильной стенокардией напряжения I–IV функционального класса. Контрольную группу для проведения генетического

исследования составили условно здоровые лица, не имевшие в анамнезе ишемической болезни сердца и других сердечно-сосудистых заболеваний, а также не имевшиеотягощенного семейного анамнеза по указанным заболеваниям. В ходе исследования использовали общеклинические, биохимические, инструментальные, молекулярно-генетические и статистические методы исследования.

Для изучения молекулярно-генетических особенностей риска развития ишемической болезни сердца у обследованных пациентов проводили генотипирование полиморфизма Lys198Asn (G>T) гена **EDN1**, участвующего в регуляции сосудистого тонуса и эндотелиальной функции. Генотипирование осуществляли методом полимеразной цепной реакции с детекцией аллелей.

При сравнительном анализе распределения аллелей и генотипов полиморфизма Lys198Asn гена **EDN1** между образцами пациентов основной группы с ишемической болезнью сердца и участниками группы сравнения, состоявшей из условно здоровых лиц, были выявлены статистически значимые различия между группами.

В частности, частота минорного аллеля риска **Asn** среди пациентов основной группы составила **34,0%**, что характеризовалось значительным увеличением по сравнению с группой сравнения — **16,2%** (34,0% против 16,2%; $\chi^2 = 22,1$; $p = 0,01$). Рассчитанное в ходе статистического анализа отношение шансов также подтвердило ассоциацию данного аллеля с развитием ИБС (OR = 2,7; 95% CI: 1,77–4,03). Полученные результаты свидетельствуют о том, что минорный аллель **Asn** может рассматриваться как генетический фактор, ассоциированный с повышенной предрасположенностью к развитию заболевания.

Аналогичная закономерность была выявлена при анализе гомозиготного генотипа **Asn/Asn**. Частота встречаемости данного генотипа среди пациентов основной группы была в **5,7 раза выше**, чем в группе сравнения (14,3% против 2,9%; $\chi^2 = 9,7$; $p = 0,01$; OR = 5,7; 95% CI: 1,91–16,84). Это подтверждает наличие статистически значимой ассоциации гомозиготного генотипа **Asn/Asn** с повышенным риском возникновения и развития ишемической болезни сердца.

Частота гетерозиготного генотипа **Lys/Asn** среди пациентов основной группы составила **39,5%**, что было достоверно выше по сравнению с группой сравнения (**27,6%**). У пациентов, являвшихся носителями данного гетерозиготного генотипа, также отмечалось повышение риска развития ИБС. Согласно полученным данным, вероятность развития заболевания у носителей генотипа **Lys/Asn** была в **1,8 раза выше** по сравнению с носителями других генотипов ($\chi^2 = 5,1$; $p = 0,01$; OR = 1,8; 95% CI: 1,08–2,99).

Напротив, в группе сравнения отмечалось статистически значимое увеличение частоты мажорного аллеля **Lys** по сравнению с пациентами основной группы. В частности, частота данного аллеля среди участников группы сравнения составила **83,8%**, тогда как среди пациентов с ИБС — **66,0%** ($\chi^2 = 22,1$; $p = 0,01$). Частота встречаемости гомозиготного генотипа дикого типа **Lys/Lys** в группах сравнения и основной группе составила соответственно **70,5%** и **46,2%** ($\chi^2 = 16,6$; $p = 0,01$). Более высокая частота встречаемости аллеля **Lys** и генотипа **Lys/Lys** в группе сравнения по сравнению с основной группой, а также значения отношения шансов для аллеля **Lys** (OR = 0,4; 95% CI: 0,25–0,56) и генотипа **Lys/Lys** (OR = 0,47; 95% CI: 0,22–0,59) могут свидетельствовать об их потенциальном защитном эффекте в отношении риска развития ИБС.

Таким образом, полиморфизм **Lys198Asn (G>T)** гена **EDN1** может рассматриваться как потенциальный молекулярно-генетический маркер предрасположенности к развитию ишемической болезни сердца и представлять интерес для совершенствования раннего прогнозирования индивидуального риска заболевания.

Список использованной литературы:

1. **Bühler, K.** Risk of coronary artery disease as influenced by variants of the human endothelin and endothelin-converting enzyme genes / K. Bühler, M. Ufer, A. Müller-Marbach [et al.]. // *Pharmacogenetics and Genomics*. – 2007. – Vol. 17, No. 1. – P. 77–83. – DOI: **10.1097/01.fpc.0000230118.26581.40**
2. **Jin, J. J.** Association of endothelin-1 gene variant with hypertension / J. J. Jin, J. Nakura, Z. Wu [et al.]. // *Hypertension*. – 2003. – Vol. 41, No. 1. – P. 163–167. – DOI: **10.1161/01.HYP.0000043680.75107.CF**.
3. **Liang, L.-L.** Genetic susceptibility of five tagSNPs in the endothelin-1 (EDN1) gene to coronary artery disease in a Chinese Han population / L.-L. Liang, L. Chen, M.-Y. Zhou [et al.]. // *Bioscience Reports*. – 2018. – Vol. 38, No. 5. – Article BSR20171320. – DOI: **10.1042/BSR20171320**.
4. **Tanaka, C.** Evaluation of the Lys198Asn and -134delA genetic polymorphisms of the endothelin-1 gene / C. Tanaka, K. Kamide, S. Takiuchi [et al.]. // *Hypertension Research*. – 2004. – Vol. 27, No. 5. – P. 367–371. – DOI: **10.1291/hypres.27.367**.
5. **Tu, G.** Association of +138I/D and Lys198Asn polymorphisms in the endothelin-1 gene with early onset of coronary artery disease among the Chinese Han population / G. Tu, Z. Fang, Y. Zhao, Q. Wu. // *Medical Science Monitor*. – 2020. – Vol. 26. – Article e921542. – DOI: **10.12659/MSM.921542**.

TABLE OF CONTENTS

1	PSYCHOLOGICAL FACTORS OF LEADERSHIP ABILITY — Tajimuratova Shaxnoza	3–6
2	ХИРУРГИЧЕСКИЕ ЗАБОЛЕВАНИЯ ДИСТОПИРОВАННОЙ ПОЧКИ У ДЕТЕЙ — Курбанов Тукташ	7–10
3	COGNITIVE AND STYLISTIC ASPECTS OF EMOTIVE METAPHORS IN ENGLISH AND UZBEK LITERARY DISCOURSE — Aslonova Suxaylo	11–13
4	THE SIGNIFICANCE OF THE PLA2G7 GENE IN INCREASING THE EFFECTIVENESS OF DISEASE PROGNOSIS IN DUODENAL ULCERS COMPLICATED BY BLEEDING — Alimov Sukhrob	14–15
5	PROSPECTS FOR IMPROVING THE INSTITUTION OF THE TEMPORARY LOAN OF ATHLETES IN UZBEKISTAN SPORTS LAW — Usmonaliyev Muslimbek	16–23
6	CURRENT CHALLENGES AND SOLUTIONS OF TECHNOLOGY INTEGRATION IN EFL CLASSROOMS — Mamarizayeva Gulnoza	24–33
7	METAPHOR AS A STYLISTIC DEVICE FOR CONSTRUCTING FEMALE IDENTITY IN SYLVIA PLATH'S SELECTED POEMS — Anvar Kamalov	34–38
8	GENETIC POLYMORPHISMS OF TOLL-LIKE RECEPTOR 4 IN CHILDREN WITH RECURRENT URINARY TRACT INFECTIONS — Zukhriddin Zokirov, Iroda Sa'dullayeva	39–41
9	PRINCIPLES, STAGES, SYSTEM OF INCLUSIVE EDUCATION AND THE IMPORTANCE OF USING DIGITAL TECHNOLOGIES IN IT — Abdunazarova Zebiniso	42–45
10	PATHOMORPHOLOGICAL FEATURES OF THYROID DISEASE IN NEWBORNS BORN TO MOTHERS WHO HAVE PASSED COVID-19 AMONG THE POPULATION OF THE ARAL REGION — Sabirdjanov Sadriddin, Karimov Rasulbek	46–48
11	ANALYSIS OF ROUTINE METHODS OF PLASTIC SURGERY FOR PRESSURE SORES IN THE SACRAL REGION — Rajabov Doston	49–53
12	WATER SECURITY AND TRANSBOUNDARY COOPERATION IN CENTRAL ASIA — Normuhammadov Nurbek	54–65
13	DEVELOPMENT AND VALIDATION OF A LOGISTIC PREDICTION MODEL FOR PAPILLARY THYROID CARCINOMA BASED ON CLINICAL AND ULTRASOUND PARAMETERS — Z.S. Kadirova	66–67
14	MORPHOGENESIS OF ATELECTASES IN THERMAL LUMEN DAMAGE (EXPERIMENTAL STUDY) — Jumanazarov Dostonbek, Karimov Rasulbek	68–69
15	CLINICAL EFFECTIVENESS OF 3D COMPUTER-ASSISTED PLANNING AND DIGITAL SURGICAL TECHNOLOGIES IN THE TREATMENT OF FEMORAL NECK FRACTURES — Murodjon Ergashevich Irismetov, Shuhrat Urazaliyevich Usmonov, Anvar Rakhimov, Javohir Yormatov	70–72
16	DESIGNING THE CONCEPT OF MANAGEMENT IN EDUCATION: A STRATEGIC AND SYSTEMIC APPROACH — Rustamov Jahongir	73–78

17	ПОЛИМОРФИЗМ C-786T ГЕНА NOS3 КАК ГЕНЕТИЧЕСКИЙ ФАКТОР РИСКА РАЗВИТИЯ ИШЕМИЧЕСКОЙ БОЛЕЗНИ СЕРДЦА — Хамидов Диёрбек, Мусашайхов Умиджон, Набиева Дилдора, Бобоев Кодиржон	79–82
18	ИССЛЕДОВАНИЕ АССОЦИИ ПОЛИМОРФИЗМА LYS198ASN (G>T) ГЕНА EDN1 С РАЗВИТИЕМ ИШЕМИЧЕСКОЙ БОЛЕЗНИ СЕРДЦА — Хамидов Диёрбек, Мусашайхов Умиджон, Набиева Дилдора, Бобоев Кодиржон	83–86
	OUTLINE	87-88