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КАФЕДРА ІНОЗЕМНИХ МОВ ТА ЛІНГВОДИДАКТИКИ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

МАТЕРІАЛИ

XVIII ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ СТУДЕНТІВ, АСПІРАНТІВ ТА ВИКЛАДАЧІВ ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ ТА ЛІНГВОДИДАКТИКИ

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"TO MAKE THE WORLD SMARTER AND SAFER"

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To Make the World Smarter and Safer: Матеріали XVIII всеукраїнської науково-практичної конференції студентів, аспірантів та викладачів Лінгвістичного навчально-методичного центру кафедри іноземних мов та лінгводидактики СумДУ (25-26 квітня 2024 р.) / за заг. ред. професора Таценко Н.В. – Суми : СумДУ, 2024. – 168 с.

У матеріалах подані тези XVIII Всеукраїнської науково-практичної конференції студентів, аспірантів та викладачів Лінгвістичного навчально-методичного центру кафедри іноземних мов та лінгводидактики СумДУ. До збірника ввійшли наукові дослідження, присвячені актуальним проблемам сучасних інноваційних технологій та процесів у науці, техніці та різних сферах людської діяльності.

Для молодих науковців, викладачів і студентів усіх факультетів.

За зміст статей і правильність цитування відповідальність несе автор

From the point of view of biophysics, bone tissue is a composite material. It consists of organic and inorganic substances and hydroxyapatite. The main materials of bones, skin, muscles, and vascular tissue are collagen and elastin. The mechanical properties of these materials: the elastic modulus and tensile strength, respectively, are 10-100 MPa and 100 MPa for collagen, and 0.1-0.6 MPa and 5 MPa for elastin.

Now scientists around the world are facing the question of bringing the mechanisms of prostheses to the mechanism of muscles, which will help people with disabilities feel needed in society. I'd like to end with a quote from Oscar Pistorius: "Physical disabilities do not make us crippled, they open up new opportunities."

THE IMPACT OF MEDICAL INNOVATIONS ON MODERN LIFE

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Exploring the issue of innovations in medicine and their impact on modern life, we encounter a rapidly evolving field that profoundly affects each of us. Modern medical innovations not only change the methods of treatment and diagnosis; they redefine the very concepts of health and quality of life. From personalized medicine based on genetic analysis to revolutions in pharmacology and robotics, each innovation contributes to further extending life expectancy and improving its quality. However, along with the promises of these benefits come new challenges: ethical dilemmas, issues of access to advanced treatments, and the preservation of the human dimension in patient care. In this paper, we will examine how exactly innovations in medicine are shaping modern life, what benefits they bring, and the challenges we face.

This investigation is based on a comprehensive analysis of scientific literature, statistical data, and case studies to evaluate the impact of medical innovations on modern life. The research methodology includes the following stages:

1. Systematic Literature Review**:** A search and analysis of scientific articles published from 2010 to 2023 were conducted in

medical and scientific research databases such as PubMed, Scopus, and Google Scholar. Keywords for the search included "medical innovations," "digitalization in medicine," "personalized medicine," "robotics in surgery," and "impact of technology on health."

2. Analysis of Statistical Data: Examination of official statistics from health organizations and innovative medical companies to assess trends in the development of medical technologies and their adoption in clinical practice.

3. Case Studies: Selective investigation of several innovative medical projects and technologies aimed at a deeper analysis of their impact on improving patients' quality of life. This allowed for the identification of successful examples of innovation implementation and the challenges faced by medical institutions and patients.

Data from all sources were aggregated, systematized, and analyzed using quantitative and qualitative analysis, it enabled the identification of key trends, benefits, and challenges associated with innovations in medicine.

Ethical Considerations: All aspects of the research were conducted in accordance with ethical norms and standards of scientific integrity. Information obtained from published sources was used in compliance with citation rules and intellectual property rights [1].

The systematic literature review identified several key areas where medical innovations have significantly impacted modern life. These include advancements in personalized medicine, where genetic profiling enables more targeted and effective treatments; developments in medical devices, such as wearable technology that monitors health in real-time; and breakthroughs in digital health, including telemedicine and AI-driven diagnostic tools. Statistical analysis revealed a steady increase in the adoption of these technologies, with a notable acceleration in the past five years. Case studies highlighted specific examples of success, such as the use of AI in improving diagnostic accuracy for diseases like cancer and diabetes, and the implementation of telehealth services, which have dramatically increased access to healthcare, especially in remote areas [2]. The results underscore the profound impact of medical

innovations on enhancing healthcare delivery and patient outcomes. Personalized medicine represents a paradigm shift towards more customized care, potentially leading to better treatment outcomes and fewer side effects. Wearable technology and digital health tools offer promising avenues for preventive medicine, empowering individuals to take an active role in managing their health. However, the integration of these innovations also presents challenges. Issues of data privacy and security, the digital divide, and the need for regulatory frameworks are paramount. The adoption of telemedicine, while beneficial, raises questions about the patient-provider relationship and the potential for reduced human interaction. The acceleration in medical technology adoption due to the COVID-19 pandemic has further highlighted the need for robust digital infrastructure and equitable access to healthcare [3]. Innovations have the potential to bridge healthcare disparities, but this requires concerted efforts from governments, healthcare providers, and technology developers.

In conclusion, medical innovations are reshaping modern life by improving healthcare delivery and patient outcomes. While the future holds great promise, addressing the accompanying challenges is crucial to fully realizing the benefits of these advancements. Collaboration across sectors and disciplines, along with thoughtful consideration of ethical, legal, and social implications, will be key to harnessing the potential of medical innovations for the betterment of society. Based on the analysis of scientific literature, statistical data, and case studies, the following conclusion can be drawn regarding the impact of medical innovations on modern life:

1. Personalized medicine is becoming increasingly accessible, offering treatment approaches that are more precisely tailored to the individual needs of patients. This contributes to improved treatment outcomes and a reduction in side effects.

2. Wearable technologies and digital health tools play a key role in the transition from reactive to preventive medicine, providing individuals with tools for active monitoring and management of their own health.

3. Telemedicine and artificial intelligence-based diagnostics expand access to quality medical care, particularly in remote and underserved areas, while also enhancing the efficiency of diagnosis and treatment.

4. The COVID-19 pandemic has further highlighted the importance of medical innovations, accelerating their adoption and demonstrating their potential in responding to global health challenges.

5. Challenges associated with the integration of medical innovations include issues of privacy and data security, the need for regulatory adjustments, and the risk of a digital divide, which could limit access to innovative medical services for certain population groups.

6. Collaboration between governments, medical institutions, the scientific community,
and the private sector is key to overcoming these challenges and maximizing the potential of medical innovations for the benefit of society as a whole.

In thus, medical innovations are crucial for improving the quality of life and health of people worldwide. To achieve this goal, existing challenges must be addressed, and equitable access to innovative medical technologies and services must be ensured.

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INTERACTION OF COMPONENTS OF THE IMMUNE SYSTEM WITH NOVEL TWO-DIMENSIONAL MXENES MATERIALS

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Interaction of components of the immune system with novel two-dimensional MXenes materials has garnered an increasing