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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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INFORMATION FACTORS OF MEDIA INFLUENCE ON THE FORMATION OF STATE POLICY IN THE FIELD OF LEGAL REGULATION OF BIOMEDICAL TECHNOLOGIES

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Abstract.

Aim: The aim of the article is to study the role of information and communication technologies, in particular mass media and social media, in shaping the legal regulation of biomedical activities.

Materials and methods: The empirical basis of the study is formed by the literary sources of Ukrainian and international scholars, Ukrainian and foreign legislation, as well as materials from media websites and social networks. The article uses general theoretical and special methods of scientific cognition: theoretical analysis, systemic and structural, analysis and synthesis, sociological and statistical, logical and semantic, comparative and legal, method of ascent from the abstract to the concrete, forecasting and generalization.

Results: The concept of biomedical technologies and the need to develop new or improve existing legal regulation in the specified area are examined in the article. The role of mass media in informing the population about biomedical issues is analyzed, which allows for its public discussion and reflects the attitude of society towards certain biomedical technologies, which in turn affects the direction of their state regulation. Emphasis is placed on the expanding influence of social media and their ability to enhance the interaction of public authorities with the public, which is an advantage for research on public attitudes in the field of biomedicine. The increase in the amount of media content related to the process of biomedicalization is emphasized. Specific cases of the influence of public discussions of biomedical technologies in social media on the development and introduction of changes to legislation are given.

Conclusions: Conclusions are drawn about the importance of the role of the media in informing the public about the main scientific discoveries in the field of biomedical technologies, as well as in reflecting their public perception or rejection, which forms the vector of public policy in the relevant rulemaking activities.

Key words. Information and communication technologies, right to healthcare, human biomaterials, mass media, social media, journalism, public authority.

Introduction.

The modern world is characterized by the rapid development of all branches of science and technology, but it is biotechnological achievements, especially their biomedical cluster, that attract increased attention. This interest is easy to explain given that biomedical technologies are directly related to the impact on the highest social values recognized by the international community - human life, health and dignity. The distant future described by Aldous Huxley in his novel Brave New World, with its "incubators" and editing of people at the embryonic stage, has become much closer. Over the past decade, scientists from around the world have begun to work actively on creating an artificial uterus as a robotic system for carrying a fetus. After the decoding of the genome, biologists and geneticists have joined forces to modify human genes in order to overcome hereditary diseases (at least for now, this is the goal of genetic editing). Transplantology is also reaching a new level with the development of bioprinters capable of printing tissue or organs suitable for transplantation into a sick patient from human stem cells. It is important to note that the public learns about all these new biomedical technologies not from scientific articles and monographic studies, but from media reports and social media. It is the media that creates the necessary public outcry by drawing attention to important scientific discoveries, generating discussions around them about the ethics of research and the application of their results, and highlighting not only the positive aspects of biotechnological advances but also the obvious and hidden threats they pose. In turn, a wide public discussion of biomedical activities encourages the development of specific and improved framework legal regulation in the field of creation and use of biomedical technologies.

Literature review.

In the scientific literature, more and more attention has recently been paid to the role of the media in disseminating and popularizing scientific knowledge in the field of biomedicine among the general population. In particular, N. Ilyn studied the main levels of communicative influence of the mass media on the audience and personal psychology, identified the criteria for human perception of information by watching specialized television programs and information resources of the Internet, and outlined the main mechanisms and nature of the media's influence on the process of forming public and individual legal understanding [1]. S. Kozyriatska analyzed the role and place of medical journalism as a special type of scientific journalism in the mass communication system, noting the need not only to publish scientific news in the medical field in professional publications, but also to inform the public about certain achievements, which involves publications in non-specialized

media [2]. R. A. Saraf, J. Balamurugan noted the role of the media in the field of health development, as the world is facing many health problems, and if they are not presented to people, they can have negative consequences for humanity [3]. D. Ouchene, H. Boussalah, Kh. Ziane also pointed out that the media play an active role in disseminating health information and data to a wide audience, including messages about disease prevention, treatment methods, and the latest research and development in the field of medicine [4]. P. Maeseele, J. Allgaier, L. Martinelli studied the representation of biological innovations in communication and media practices in terms of their importance for understanding the nature of "bio-objects" and the process of "bio-objectification", as modern biotechnologies break the boundaries between what has traditionally been understood as "life" and inanimate material [5]. A. Cortegiani et al. analyzed the dissemination of medical practice and scientific information through social media, which, on the one hand, can help establish connections in the scientific community, overcome obstacles to accessing sources, and intensify scientific discussions, and on the other hand, can lead to the promotion of practices that are not scientifically supported [6].

At the same time, against the background of the growing influence of the media on public opinion in various spheres of society, including in the field of biomedical technologies, the role of the media in shaping public policy to regulate public relations related to biomedical activities remains insufficiently studied. Therefore, it is important to fill this gap within the framework of this research.

Methodology of the study.

Given the chosen subject matter of the research, the materials of regulatory legal acts, legal literature, data from media and social media sites were used in the preparation of the scientific article. The subject and object of the study necessitated the use of general scientific and special methods of scientific cognition. Using the methods of analysis and synthesis, the author investigated the possibilities of influencing the messages and scientific commentaries in the media and social media on the formation of public policy in the biomedical field. The formal logical method was used to understand the logic of the legal provisions related to the use of biomedical technologies without excessive subjectivity. The use of the content analysis method was manifested in the collection of quantitative and qualitative data on the impact of the media on amending the legal acts in the field of regulation of biomedical technologies. The methods of forecasting and generalization were used to determine the vectors of development of legal regulation in the field of biomedicine under the influence of the media.

The theoretical and methodological basis of the scientific research were the works of scientists and practitioners in the field of medical law and journalism, dedicated to highlighting the influence of mass media on the formation of public opinion on the achievements of biomedicine. Considerable attention was paid to the results of public discussions on the need for legal regulation of biomedical technologies. The analysis of primary sources of legislative, normative legal acts and international documents on the subject of the article also contributed to drawing the author's conclusions. The complex of methods, techniques and means determined by the purpose of the article and the tasks of the research helped to maximally reveal the issues outlined in the article.

Results and Discussion.

The concept of biomedical technologies:

Before demonstrating the influence of the media on the formation of national legislation in the field of biomedical technologies, it is necessary to define their concepts and types in order to outline the range of media content that was focused on in this study.

Thus, the term "biomedical technology" means activities related to the use of biological technologies for the needs of medicine, i.e. for the treatment and prevention of human diseases [7]. As noted by V. Gupta et al. note that biomedical technologies should be understood as complex procedures aimed at creating new biological objects and their products that can cause a certain diagnostic, therapeutic or prophylactic effect when used in medical practice [8]. At the same time, biomedical technologies include assisted reproductive technologies, regenerative medicine, genetic engineering, embryonic stem cell experiments, the use of umbilical cord blood for medical purposes, cryopreservation of human cells, tissues, organs and embryos, genetic diagnostics, transplantation of human organs and tissues, cloning, etc. [9]. S. Stetsenko calls biomedical technologies a tool for improved human existence and a catalyst for social challenges [10]. Zh. Semydotska defines biomedical technology as a set of procedures aimed at creating new biological objects and their products that have certain diagnostic, therapeutic or preventive effects when used in medical practice [11]. The scientist defines biomedical technologies as cell therapy, organ and tissue transplantation, genetic engineering, gene therapy, genetic diagnostics, bioinformatics, and bioengineering. Thus, the main feature of biomedical technology that distinguishes it from other biotechnologies is the creation of new or modification of existing biological objects and their products that have diagnostic, preventive or therapeutic properties, as well as their application in the medical and medical-social spheres.

As noted by V. I. Teremetskyi et al., each state, which seeks to ensure a high living standard for its citizens, creates legal, organizational, economic and social principles for the functioning of the health care system. Health care legislation is being improved as the basis for increasing the level of providing medical care and creating conditions for maximum coverage of the population by affordable and quality medical care with minimal financial resources [12]. At the same time, despite the rapid development of biomedical technologies, most social relations arising in the field of biomedicine are still outside the legal field or regulated at the sectoral level, which does not correspond to the importance of creating conditions for protecting the rights and legitimate interests of the subjects of these legal relations. National legislation does not respond to the need to ensure legal regulation of the use of biomedical technologies, limiting itself to declarative norms and not outlining the limits of permitted interference with natural processes, biosafety and protection of human genetic identity

[13]. Accordingly, at both the international and national levels, there is a need to develop an appropriate regulatory framework that can regulate relations in this area, taking into account the principles of bioethics.

2. Information and communication technologies as a mirror of public discussions on biomedical activity:

As mentioned above, the development of biomedical technologies and their clinical use requires urgent decisions from the authorities. Often, it is the media that is the driving component that promotes dynamic changes in the legal regulation of this area. In the context of globalization, the problem of compliance with the bioethical principles of respect for individual autonomy and privacy in the application of biomedical advances in clinical practice is becoming very acute. In this regard, the media, as the main large-scale source of informing the population about biomedical issues, reflects the attitude of society to certain biomedical technologies, influencing the vector of their state regulation.

At the same time, the rapid development of the Internet over the past decade has provided users with numerous alternatives. In addition to the obvious advantages of information search and cross-border communication, social media have emerged and become the predominant form of media worldwide. In general, the word "social media" refers to a group of technological tools that, as the name implies, provide opportunities for social interaction, networking and dialogic communication [14]. At its core, social media is a category of Internet programs based on the scientific and technological principles of Web 2.0 that allow generating and sharing user-generated content [15].

Social media refers to any user-generated content, including posts on sites such as X.com and Facebook, as well as comments on disease or health-related sites, forums, or chat rooms. Most social media are relevant to biomedical research, including X, Facebook, Flickr, Instagram, Reddit, and even Youtube [16]. One of the most important services of social networks is blogging, where users can participate, share ideas, and engage in discussions with each other. These websites and online communities provide channels for direct interaction with other people on social networks and media. They are actively involved in international decision-making in the financial, political, civic, and academic spheres [14].

The ability of social media to enhance public engagement is a huge advantage for biomedical public opinion research. Social media platforms enable researchers to share their discoveries and research with a wide range of people. Therefore, web-based social media platforms have become an important medium for billions of people to learn about and comment on current events in the field of biomedical research in a timely manner, making them an ideal resource for studying public perceptions [17]. Web-based social media platforms adapt to the expressions of broad demographic groups, and discussions and statements are not controlled by predefined questionnaires. Thus, they can effectively reduce bias in data [18]. As a result, over the past decade, user-generated content from social media platforms has been increasingly used to study public attitudes on a wide range of topics, including anti-vaccination, lung cancer screening, genetic editing, and more [17]. At the same time, the media discourse on health is increasingly reflecting biomedicine as a large techno-scientific enterprise through the interweaving of new research fields (robotics, nanotechnology, artificial intelligence) and their technological implementation. Genetics and genomics are demonstrating growing relevance and are actually becoming more popular topics of discussion in the media and social media. For example, only one video "Genetic Engineering Will Change Everything Forever - CRISPR" on the YouTube channel "Kurzgesagt - In a Nutshell" has collected 29 million views and more than 70 thousand comments, which demonstrated the favorable attitude of network users to this technology. At the same time, the number of views of various videos on this topic reaches hundreds of millions, with users leaving millions of comments. Also popular are videos dedicated to the development of an artificial uterus, such as "Scientists Grow Lamb Fetus Inside Artificial Womb" on the Insider Tech channel, "EctoLife: The World's First Artificial Womb Facility" on Hashem Al-Ghaili channel, which have thousands of comments with completely opposite points of view on this technology, demonstrating a mostly negative attitude towards it. In contrast, there has been a decline in interest in traditional organ and tissue transplantation and biobanks, which seem to have been replaced by other areas of research. However, the prospects of embryonic tissue transplantation for the treatment of diseases such as diabetes and Parkinson's disease, which have re-emerged as an issue of embryonic research ethics [19], are, on the contrary, more actively covered in the media. In other words, the media is characterized by a shift to biomedicalization, in which the impact of biomedical technologies on the human body is expanding and it is no longer perceived only as something prone to disease, but also as something that can be changed (improved). At the same time, discourses of biomedicalization focus primarily on technoscientific research with potential health outcomes and potentially relevant translational benefits, rather than on basic research with long-term benefits [20]. Given the fact that social media create a living community organism that develops evaluation mechanisms of reality and is a barometer of public sentiment [21], they influence the rulemaking in the field of biomedical activities even more than public discussions or consultations.

3. Coverage of biomedical issues in the media: regulatory and ethical boundaries:

As early as 2003, A. E. Clarke et al. identified the connection between health and the media as the most influential cause of biomedicalization in the modern world, which makes it imperative to observe media ethics and medical ethics [22]. Without the involvement of the media, a wide range of current and potential users of new biomedical technologies would not be able to receive not only at least some basic information about them, but also the opportunity to make an extremely responsible decision about their use in relation to themselves. Therefore, in order to help ordinary citizens "get used to" the complex and sometimes frightening world of new biomedical technologies, the media should be closely connected with bioethics [23]. G. Schwitzer, one of the co-authors of the publication "Bioethics and the Media: Guidelines for Journalists", named "sensationalism", commercialization, origin of materials from only one source,

one-sided description of the effect of new drugs without discussing possible problems associated with their use, as well as careless interpretation of statistical and medical data among the problems of medical journalism [2]. In order to avoid such problems during the COVID-19 pandemic, the World Health Organization (WHO) has issued numerous infodemic warnings, fact-checking, and information diets [24]. However, there are still no special regulations that would establish bioethical principles of medical journalism. National legislation is limited to the laws on mass media, access to public information and advertising, establishing general rules for media activities. Therefore, the importance of media ethics codes is growing. More than 400 codes of ethics for journalists have been adopted worldwide, many of which are available in the database of the Accountable Journalism website. The Declaration of Principles on the Conduct, adopted by the International Federation of Journalists in 1954, is considered a universal document on ethics in journalism and provides for the basic values of journalism - truthfulness, independence and the need to minimize harm [25]. Another influential code of ethics for journalists is the code adopted in 2014 by the American Society of Professional Journalists (SPJ). Its preamble states that "an ethical journalist must act with integrity," and the code itself contains four basic principles that call on journalists to (1) seek and report the truth, (2) minimize harm, (3) act independently, and (4) be accountable and transparent [26]. These principles apply to both traditional journalism and modern forms of social media. In addition, there are codes of ethics for journalists covering medical and biomedical topics. For example, the American Association of Healthcare Journalists has prepared a "Statement of Principles", recognizing the special responsibility of journalists in covering health and medical news. The main principles include adherence to professional standards of truth, accuracy and context, independence, credibility and responsibility [23]. The codes of conduct of the Australian Medical Association (AMA) and its Council of Doctors in Training (AMACDT) pay special attention to social media, which must comply with the principles of confidentiality, professional reputation, and contain warnings about advertising, managing online comments, and using social media for propaganda [27].

Thus, compliance with the provisions of the ethical codes of journalists covering health and biomedicine makes it possible to ensure the principle of promoting discussion, education and public awareness of bioethics issues and its involvement in their resolution, as envisaged by the UNESCO Declaration on Bioethics and Human Rights, which in turn is a catalyst for regulatory decision-making in the field of biomedical technologies.

4. Representation of biomedical technologies in the media: normative effects:

To reflect the impact of the media on the legal regulation of biomedical technologies, the author analyzed reports, comments and interviews presented in the media and social networks in 2018-2024 and selected vivid examples that illustrate the results of the study.

Thus, in 2018, France held public national consultations on bioethics law. In particular, the following topics were discussed: research on human embryos and human embryonic stem cells, genetic testing and genomic medicine, organ donation and transplantation; neuroscience, medical data, artificial intelligence and robotics, health and the environment, assisted reproduction, and end-of-life care. In March 2018, an "Introduction to the topics of the National Consultation" was organized, which was attended by about 60 journalists. Throughout the consultation, both national and regional media were involved in covering events and discussions held across the country. The results of this national initiative were not only a clear increase in public awareness of the topics discussed, but also the development of a new draft law aimed at revising the existing French bioethics law [28].

In Germany, in 2019, the project "Genomchirurgie im gesellschaftlichen Diskurs" (genome editing in public discourse) was implemented to stimulate public debate on the ethical, legal, and social aspects of new methods in the field of genetic technologies. The need for such discussions was related to the revolutionary changes in genome editing technologies, in particular the medical application of the CRISPR-Cas9 system. The project's target audience included interested members of the public, schoolchildren, teachers, university students, and researchers, as well as stakeholders from politics, science, and the media. Three events were specifically organized for journalists, researchers, and political and scientific stakeholders. In two training workshops organized by the Journalism Board of the German National Academy of Sciences, journalists and editors joined scientists from the fields of biology, medicine, ethics, and law to develop in-depth knowledge in the specialized field of genome editing from different perspectives. The goal was to raise journalists' awareness of this complex topic and to promote qualified media coverage of it [29]. As the discussion has shown, the potential and risks associated with the use of human genome editing processes illustrate the high social significance of these technologies, so great importance is attached to public discussions on relevant programs. Accordingly, the results of the public discussions were used in the preparation of the Report of the German Committee on Education, Research and Technology Assessment "Technology Assessment of Human Genome Editing" dated 22.02.2022 for the Technology Assessment Board of the German Bundestag (TAB), which contains an analysis and processing of the scientific and medical situation, scientific ethical and legal, as well as social and political debates on the use of human genome modification processes for further consideration by the Bundestag of the topic of human genome editing [30].

Also of particular note is the incident with the Chinese researcher He Jiankui, who announced in an interview with the Associated Press in late November 2018 [31] that he had contributed to the birth of genetically edited babies - the CCR5 gene was edited in the twin girls born. He worked with the embryos of seven couples undergoing IVF, but only one couple made it to pregnancy and childbirth. He told the publication that the twins' parents do not wish to be publicized, so he cannot give information about their place of residence or disclose details about their lives or the work he has done. He said that the men in all the couples were HIV-positive, and he gave

the couples a chance to protect their offspring from infection. The goal of his work was not to cure or prevent the hereditary disease, but to try to instill in the embryos a quality that some people have - the ability to resist possible HIV infection. It is important that the scientist had not published the results of his work in scientific journals before the interview, violating the norms and principles of the scientific ethos, according to which it is unacceptable in the scientific environment to gain popularity without sufficient scientific validation of research results by publishing materials in the media that operate outside the scientific field and are intended for a wide (non-professional) audience [32]. At the same time, the scientist used the media to attract the attention of not only the audience but also lawmakers. After the incident with genetically altered babies, the Ministry of Science and Technology of China adopted the Regulations on the Management of Human Genetic Resources, in particular the section "Regulations on the Management of Human Genetic Resources: Prevention of Illegal Research. In addition, in 2019, the Chinese National Health Committee developed a draft regulation on the clinical application of innovative biotechnologies, which also regulates issues of confidentiality, biosafety and bioethics [33]. This regulation classifies clinical trials on gene editing into two levels: high-risk and low- and medium-risk. All high-risk trials, including gene transfer and editing technologies, stem cell technologies, somatic cell technologies, mitochondrial replacement transfer, and assisted reproductive technologies, must be approved by the National Health Committee after reviewing the scientific and ethical aspects of the project. To conduct clinical trials with low and medium risk, a license is required. The Regulation on the Clinical Application of Innovative Biotechnologies also sets out professional requirements for the principal investigator of a clinical project and the research institution. In addition, China plans to establish a National Committee for the Ethics of Science and Technology, which would control biomedical research and would be analogous to the Nuffield Council for Bioethics in the UK [34].

The experience of Ukraine is also interesting. In November 2023, the Verkhovna Rada of Ukraine adopted Bill No. 8011, which grants the right to use the germ cells of Ukrainian servicemen at the state level if they have lost their reproductive function due to injury, trauma or concussion and provides for the right to free storage of reproductive cells. In December 2023, the law was officially published. However, it was only in January 2024, after the media published a detailed analysis of the published document and focused on the provision on the disposal of biomaterial in the event of the death of the military, that a scandal erupted on social media [35-37]. This provoked a reaction from people's deputies who claimed that the clause on posthumous disposal of reproductive material was "slipped in" at the last minute and was allegedly not approved by the relevant committee of the legislature. As a result of the resonance caused in the media and social media, on February 7, 2024, the parliament adopted legislative changes that allow the reproductive cells of deceased servicemen to be used for the birth of children and stored at public expense for 3 years after the death of a serviceman. After this period, further storage of reproductive material may be extended at the expense of another person specified in the will. Thus, the legal regulation of the possibility of a person to dispose of his or her reproductive cells in case of death, declaration of death or missing by a court was a response to the public outcry caused by publications in the media and social networks.

Also in 2024, the Ministry of Health of Ukraine began to work on an ethically controversial draft law on assisted reproductive technologies. Before the official registration on the website of the Verkhovna Rada of Ukraine, members of the Ukrainian Association of Reproductive Medicine received a working copy of the draft law. After reviewing the text, Ukrainian reproductive specialists distributed the document in Facebook groups among doctors, which resulted in a heated discussion about the new bill [38]. In particular, network users were outraged that the draft document, among other things, proposes to set a limit on the period of cryopreservation of embryos (3 months) if the date of their transfer to the uterus is not determined; prohibits the export of embryos abroad, sets a limit on the number of eggs that can be used for embryo cultivation at one time, etc. After a public discussion of the draft law, the Ministry of Health of Ukraine refused to analyze the controversial proposals in detail until they are officially published after being processed by a working group. However, given the fact that the draft law has not yet been published, the public outcry around the legal regulation of assisted reproductive technologies has stopped the process of implementing ideas that contradict the principles of bioethics by the subjects of legislative initiative.

Conclusion.

Summarizing the above, we can conclude that biomedical activities related to the development and application of biomedical technologies require proper legal regulation, given the risks that exist alongside the benefits of their clinical use in healthcare to improve healthcare for the population. At the same time, lawmakers should take into account public attitudes towards the process and results of biomedical activities when developing the relevant regulatory framework. However, reports on biomedical research and scientific discoveries in this area are usually contained in specialized scientific publications and presented in special terminology, which makes it difficult for ordinary citizens to access the scientific knowledge gained. Therefore, the mass media and social media play an important role in informing the public, using plain language but raising complex bioethical issues, generating public debate around the achievements of modern biomedicine. In addition, given the accessibility of publications on social media to the general public, as well as their popularity among billions of users, information about a biomedical discovery spread at the speed of light not only among the public but also among public authorities responsible for the rulemaking process. Since such discoveries potentially give rise to new social relations, the subjects of legislative initiative face the task of comprehensively studying not only the new phenomenon created as a result of biomedical activities, but also of providing for its proper legal regulation, taking into account the attitude to it in society. As the study shows, the public often does not delve into the content of new draft laws or adopted regulations related to biomedical technologies.

However, after a detailed analysis of these documents appears in the media or social media, focusing on complex bioethical issues, causing a resonance that in democratic societies puts pressure on lawmakers to listen to the public and reconsider their legislative initiatives.

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