

GEORGIAN MEDICAL NEWS

ISSN 1512-0112

No 10 (295) Октябрь 2019

ТБИЛИСИ - NEW YORK



ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии
საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

No 10 (295) 2019

Published in cooperation with and under the patronage
of the Tbilisi State Medical University

Издается в сотрудничестве и под патронажем
Тбилисского государственного медицинского университета

გამოიცემა თბილისის სახელმწიფო სამედიცინო უნივერსიტეტთან
თანამშრომლობითა და მისი პატრონაჟით

ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ
ТБИЛИСИ - НЬЮ-ЙОРК

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 and The International Academy of Sciences, Education, Industry and Arts (U.S.A.) 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 и Международной академией наук, образования, искусств и естествознания (IASEIA) США 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 ВИНТИ 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 ВИНТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებშიდან.

МЕДИЦИНСКИЕ НОВОСТИ ГРУЗИИ

Ежемесячный совместный грузино-американский научный электронно-печатный журнал
Агентства медицинской информации Ассоциации деловой прессы Грузии,
Академии медицинских наук Грузии, Международной академии наук, индустрии,
образования и искусств США.
Издается с 1994 г., распространяется в СНГ, ЕС и США

ГЛАВНЫЙ РЕДАКТОР

Нино Микаберидзе

ЗАМЕСТИТЕЛЬ ГЛАВНОГО РЕДАКТОРА

Николай Пирцхалаишвили

НАУЧНО-РЕДАКЦИОННЫЙ СОВЕТ

Зураб Вадачкориа - председатель Научно-редакционного совета

Михаил Бахмутский (США), Александр Геннинг (Германия), Амиран Гамкредидзе (Грузия),
Константин Кипиани (Грузия), Георгий Камкамидзе (Грузия),
Паата Куртанидзе (Грузия), Вахтанг Масхулия (Грузия), Тамара Микаберидзе (Грузия),
Тенгиз Ризнис (США), Реваз Сепиашвили (Грузия), Дэвид Элуа (США)

НАУЧНО-РЕДАКЦИОННАЯ КОЛЛЕГИЯ

Константин Кипиани - председатель Научно-редакционной коллегии

Архимандрит Адам - Вахтанг Ахаладзе, Амиран Антадзе, Нелли Антелава, Тенгиз Асатиани,
Гия Берадзе, Рима Бериашвили, Лео Бокерия, Отар Герзмава, Елене Гиоргадзе, Лиана Гогиашвили,
Нодар Гогебашвили, Николай Гонгадзе, Лия Дваладзе, Манана Жвания, Ирина Квачадзе,
Нана Квирквелия, Зураб Кеванишвили, Гурам Кикнадзе, Теймураз Лежава,
Нодар Ломидзе, Джанлуиджи Мелотти, Марина Мамаладзе, Караман Пагава,
Мамука Пирцхалаишвили, Анна Рехвиашвили, Мака Сологашвили, Рамаз Хецуриани,
Рудольф Хохенфеллнер, Кахабер Челидзе, Тинатин Чиковани, Арчил Чхотуа, Рамаз Шенгелия

Website:

www.geomednews.org

The International Academy of Sciences, Education, Industry & Arts. P.O.Box 390177,
Mountain View, CA, 94039-0177, USA. Tel/Fax: (650) 967-4733

Версия: печатная. **Цена:** свободная.

Условия подписки: подписка принимается на 6 и 12 месяцев.

По вопросам подписки обращаться по тел.: 293 66 78.

Контактный адрес: Грузия, 0177, Тбилиси, ул. Асатиани 7, III этаж, комната 313

тел.: 995(32) 254 24 91, 995(32) 222 54 18, 995(32) 253 70 58

Fax: +995(32) 253 70 58, e-mail: ninomikaber@hotmail.com; nikopir@dgmholding.com

По вопросам размещения рекламы обращаться по тел.: 5(99) 97 95 93

© 2001. Ассоциация деловой прессы Грузии

© 2001. The International Academy of Sciences,
Education, Industry & Arts (USA)

GEORGIAN MEDICAL NEWS

Monthly Georgia-US joint scientific journal published both in electronic and paper formats of the Agency of Medical Information of the Georgian Association of Business Press; Georgian Academy of Medical Sciences; International Academy of Sciences, Education, Industry and Arts (USA).

Published since 1994. Distributed in NIS, EU and USA.

EDITOR IN CHIEF

Nino Mikaberidze

DEPUTY CHIEF EDITOR

Nicholas Pirtskhalaishvili

SCIENTIFIC EDITORIAL COUNCIL

Zurab Vadachkoria - Head of Editorial council

Michael Bakhmutsky (USA), Alexander Gënning (Germany),

Amiran Gamkrelidze (Georgia), David Elua (USA),

Konstantin Kipiani (Georgia), Giorgi Kamkamidze (Georgia), Paata Kurtanidze (Georgia),

Vakhtang Maskhulia (Georgia), Tamara Mikaberidze (Georgia), Tengiz Riznis (USA),

Revaz Sepiashvili (Georgia)

SCIENTIFIC EDITORIAL BOARD

Konstantin Kipiani - Head of Editorial board

Archimandrite Adam - Vakhtang Akhaladze, Amiran Antadze, Nelly Antelava,

Tengiz Asatiani, Gia Beradze, Rima Beriashvili, Leo Bokeria, Kakhaber Chelidze,

Tinatin Chikovani, Archil Chkhotua, Lia Dvaladze, Otar Gerzmava, Elene Giorgadze,

Liana Gogiashvili, Nodar Gogebashvili, Nicholas Gongadze, Rudolf Hohenfellner,

Zurab Kevanishvili, Ramaz Khetsuriani, Guram Kiknadze, Irina Kvachadze, Nana Kvirkvelia,

Teymuraz Lezhava, Nodar Lomidze, Marina Mamaladze, Gianluigi Melotti, Kharaman Pagava,

Mamuka Pirtskhalaishvili, Anna Rekhviashvili, Maka Sologhashvili,

Ramaz Shengelia, Manana Zhvania

CONTACT ADDRESS IN TBILISI

GMN Editorial Board
7 Asatiani Street, 3th Floor
Tbilisi, Georgia 0177

Phone: 995 (32) 254-24-91

995 (32) 222-54-18

995 (32) 253-70-58

Fax: 995 (32) 253-70-58

WEBSITE

www.geomednews.org

CONTACT ADDRESS IN NEW YORK

NINITEX INTERNATIONAL, INC.

3 PINE DRIVE SOUTH

ROSLYN, NY 11576 U.S.A.

Phone: +1 (917) 327-7732

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. Корректурa 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 computer-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 საქურაღებოლ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დაიცვათ 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. რენტგენოგრაფიების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შედეგების 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 ფხიხლებში 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.

Содержание:

Лазишвили Г.Д., Егназарян К.А., Ратьев А.П., Шпак М.А., Маглаперидзе И.Г. ГИБРИДНАЯ КОСТНО-ХРЯЩЕВАЯ ТРАНСПЛАНТАЦИЯ – НОВЫЙ СПОСОБ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ РАССЕКАЮЩЕГО ОСТЕОХОНДРИТА КОЛЕННОГО СУСТАВА.....	7
Фищенко Я.В., Пионтковский В.К., Колисниченко В.А., Кравчук Л.Д. ПРИМЕНЕНИЕ ЭНДОСКОПИЧЕСКОЙ ТРАНСФОРАМИНАЛЬНОЙ МИКРОДИСКЭКТОМИИ В ЛЕЧЕНИИ ГРЫЖ МЕЖПОЗВОНКОВЫХ ДИСКОВ ПОЯСНИЧНОГО ОТДЕЛА.....	13
Dronov A., Zemskov S., Levchenko L., Rozhkova V., Prytkov F. FACTORS INFLUENCING RECOVERY AFTER PANCREATODUODENECTOMY: UNICENTER EXPERIENCE.....	17
Zasieda Y. EFFICIENCY EVALUATION OF COMBINED THERAPEUTIC APPROACH TO THE TREATMENT OF PEYRONIE’S DISEASE.....	20
Никитин А.Н., Бахтияров К.Р., Трубицына М.В. ОПЫТ ПРИМЕНЕНИЯ МЕТОДИКИ TOTRP В ЛЕЧЕНИИ СТРЕССОВОГО НЕДЕРЖАНИЯ МОЧИ У ЖЕНЩИН.....	25
Chigladze M. THE PREDICTIVE VALUE OF THE MATERNAL RISK FACTORS IN FETAL GROWTH RETARDATION.....	30
Lysenko O., Borysenko A. BIOACTIVE GLASS-CERAMIC COMPOSITION IN SURGICAL MANAGEMENT OF PERIODONTAL INTRABONY DEFECTS.....	34
Sevbitov A., Emelina G., Kuznetsova M., Dorofeev A., Emelina E. A STUDY OF THE PREVALENCE OF NON-CARIOUS DENTAL LESIONS RELATED TO PRODUCTION FACTORS IN RESIDENTS OF THE CITY OF PENZA.....	42
Lykhota K., Lykhota A., Petrychenko O. COMPARISON OF ECONOMIC EFFICIENCY OF ORTHODONTIC APPLIANCE FOR TREATMENT OF SAGITTAL BITE ANOMALIES.....	48
Stepanov Yu., Zavorodnia N., Lukianenko O., Konenko I., Yahmur V. ASSESSMENT OF THE HEPATIC AND PANCREATIC STRUCTURE WITH SHEAR WAVE ELASTOGRAPHY AND STEATOMETRY IN OBESE CHILDREN.....	51
Maharramova S., Kurbanov H. PECULIARITIES OF CLINICAL AND IMMUNOLOGICAL CHARACTERISTICS OF HERPESVIRUS INFECTIONS IN CHILDREN.....	57
Ивардава М.И., Сичинава И.В. НОВЫЕ МЕТОДЫ И ПЕРСПЕКТИВНЫЕ ПОДХОДЫ К ТЕРАПИИ ПИЩЕВОЙ АЛЛЕРГИИ У ДЕТЕЙ (ОБЗОР).....	61
Bukiy S., Olkhovskaya O., Kucherenko O., Olkhovsky E., Ogienko V. PECULIARITIES OF CYTOKINE RESPONSE IN CHILDREN WITH SHIGELLOSIS AND CONCOMITANT CYTOMEGALOVIRUS INFECTION.....	67
Чочия А.Т., Гогберашвили К.Я., Хачапуридзе Н.С., Бахтадзе С.З., Капанадзе Н.Б., Хундадзе М.С. СОВРЕМЕННЫЕ АСПЕКТЫ ДЕЙСТВИЯ КСЕНОБИОТИКОВ НА ОРГАНИЗМ ДЕТЕЙ И ПОДРОСТКОВ (ОБЗОР).....	71
Пивовар С.Н., Рудык Ю.С., Исаева А.С., Лозик Т.В., Гальчинская В.Ю., Бондарь Т.Н. ПОЛИМОРФИЗМ ГЕНОВ БЕТА ₁ - И БЕТА ₂ -АДРЕНОРЕЦЕПТОРОВ И ЭФФЕКТИВНОСТЬ БИСОПРОЛОЛА У БОЛЬНЫХ С СЕРДЕЧНОЙ НЕДОСТАТОЧНОСТЬЮ.....	76
Попов В.В., Явися А.М., Буланова Н.А., Иванов Г.Г., Хамидова Х.А., Панченкова Л.А., Мартынов А.И. КРИТЕРИИ ОЦЕНКИ КРАТКОСРОЧНОГО И ДЛИТЕЛЬНОГО ПРОГНОЗА У БОЛЬНЫХ В СТАЦИОНАРЕ НА ОСНОВЕ ХАРАКТЕРИСТИК ЭКГ СИГНАЛА ПРИ ПОСТУПЛЕНИИ. ОБОСНОВАНИЕ И ДИЗАЙН ИССЛЕДОВАНИЯ.....	84

Buchneva O. TREATMENT OF ACUTE RESPIRATORY DISTRESS SYNDROME AFTER RECONSTRUCTIVE INTERVENTION ON THE AORTA.....	89
Барало Б.И., Барало Р.П. КЛИНИЧЕСКАЯ ФАРМАКОЛОГИЯ БЕТА-АДРЕНОБЛОКАТОРОВ С ПОЗИЦИИ ПОСЛЕДНИХ ДАННЫХ НАУЧНЫХ ИССЛЕДОВАНИЙ И ИХ ВЫБОР ПРИ ИШЕМИЧЕСКОЙ БОЛЕЗНИ СЕРДЦА И АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИИ (ОБЗОР).....	93
Дербак М.А., Данканич Е.Е., Пушкаш И.И., Ганич О.Т., Поляк-Товт В.М. КЛИНИКО-ЛАБОРАТОРНЫЕ ОСОБЕННОСТИ ХРОНИЧЕСКОГО ГЕПАТИТА С У БОЛЬНЫХ ХЕЛИКОБАКТЕРИОЗОМ.....	101
Gamezardashvili A., Butsashvili M., Kajaia M., Gulbiani L., Abashidze G., Kapanadze M., McNutt L.A., Kamkamidze G. CONFIDENCE IN THE GEORGIA NATIONAL HCV ELIMINATION PROGRAM AMONG WOMEN OF REPRODUCTIVE AGE	105
Abzianidze T., Butsashvili M., Kajaia M., Kochlamazashvili M., Kipiani E., McNutt L.A., Kamkamidze G. HEPATITIS B VACCINATION: KNOWLEDGE AND ATTITUDE AMONG WOMEN OF REPRODUCTIVE AGE IN GEORGIA	109
Kochlamazashvili M., Kamkamidze G., Butsashvili M., Zarandia M., Chubinishvili O., McNutt L.A. DENTAL CLINICS: A RESERVOIR FOR HEPATITIS C VIRUS	114
Phagava H., Mikaberidze A., Tavadze O., Pagava K. PECULIARITIES OF NUTRITION AMONG MEDICAL UNIVERSITY STUDENTS	118
Borisenko V., Kovalev A., Sorokina I. EXPERIMENTAL STUDY OF NEW TECHNIQUES IN MODELLING OF ACUTE ADHESIVE SMALL BOWEL OBSTRUCTION	123
Nechiporuk V., Mel'nyk A., Korda M., Pentiuk N., Kachula S. INFLUENCE OF CHRONIC HYPERHOMOCYSTEINEMIA ON METABOLISM OF SULFUR CONTAINING AMINO ACIDS IN THE RATS' HEART AND BRAIN ON THE BACKGROUND OF HYPERTHYREOSIS AND HYPOTHYREOSIS	127
Kordzaia D., Khodeli N., Chkhaidze Z., Inauri N., Tsomaia K., Gogiashvili L. MORPHOLOGICAL CHANGES IN THE LIVER AFTER 8 HOURS OF PRESERVATION BY MACHINE PERFUSION.....	132
Fesenko D., Glazunov O., Nakonechna O., Nazaryan R., Gargin V. CONSEQUENCES OF MICROSEQUENCES OF MICROCIRCULATORY DISTRURBANCES OF ORAL MUCOSA IN MODELING OF RHEUMATOID ARTHRITIS	137
Iermolenko T., Aleksandrova A. ASSESSMENT OF THE LIPID PEROXIDE OXIDATION PROCESSES AND ANTIOXIDANT PROTECTION IN THE TREATMENT OF RATS THERMAL BURNING BY DOXYCYCLINE AS A SYNTHETIC INHIBITOR OF MATRIX METALLOPROTEINASES IN EXPERIMENT.....	141
Gaiovyeh I., Savosko S., Labunets I., Utko N., Makarenko A., Chaikovsky Y. SCIATIC NERVE REGENERATION AFTER AUTOGRAFTING AND APPLICATION OF THE BONE MARROW ASPIRATE CONCENTRATION	145
Жармаханова Г.М., Сырлыбаева Л.М., Нурбаулина Э.Б., Батырова Т.Ж., Байкадамова Л.И. МОЛЕКУЛЯРНО-ГЕНЕТИЧЕСКИЕ АСПЕКТЫ РАЗВИТИЯ МУКОПОЛИСАХАРИДОЗОВ (ОБЗОР).....	152
Уварова Н.В., Логвиненко Б.А., Собакаръ А.А., Марцеляк О.В., Слинъко Д.В. САЛЕРНСКИЙ КОДЕКС ЗДОРОВЬЯ КАК ИСТОЧНИК МЕДИКО-ФИЛОСОФСКИХ ЗНАНИЙ.....	159
Бодня Е.И., Марченко О.С., Шевченко Л.С., Скорик Л.И., Бодня И.П. МНОГОФАКТОРНАЯ МОДЕЛЬ ФИНАНСИРОВАНИЯ ПРОФИЛАКТИКИ И ЛЕЧЕНИЯ ДИРОФИЛЯРИОЗА (ОСНОВНЫЕ ПРИНЦИПЫ И ПОКАЗАТЕЛИ ЭФФЕКТИВНОСТИ).....	164
Makhniuk V.M., Makhniuk V.V., Dyachenko S., Milimko L., Divchur I. COMPLIANCE WITH STATE REGULATION OF ECONOMIC ACTIVITIES FOR SANITARY PROTECTION OF WATER FACILITIES IN UKRAINE BY EU DIRECTIVES: ECOLOGICAL AND HYGIENIC, ARCHITECTURAL-PLANNING AND LEGAL ASPECTS	171

COMPLIANCE WITH STATE REGULATION OF ECONOMIC ACTIVITIES FOR SANITARY PROTECTION OF WATER FACILITIES IN UKRAINE BY EU DIRECTIVES: ECOLOGICAL AND HYGIENIC, ARCHITECTURAL-PLANNING AND LEGAL ASPECTS

¹Makhniuk V.M., ²Makhniuk V.V., ³Dyachenko S., ³Milimko L., ⁴Divchur I.

¹State Institution «O.M.Marzieiev Institute for Public Health, National Academy of Medical Sciences of Ukraine», Kyiv;
²Ministry of Development of Communities and territories of Ukraine, Kyiv; ³National University of the State Fiscal Service
of Ukraine, Irpin, Kiev region; ⁴Drinking Water of Ukraine Association, Kyiv, Ukraine

Nowadays consumption and protection of water are extremely difficult problems. The issue of the ecological situation of water resources is relevant for all water basins in Ukraine, as the majority of the surface and underground waters of Ukraine are polluted. That is why the main problems of the consumption and protection of water resources: excessive man-made load on water bodies, significant pollution of water bodies, imperfection of the economic mechanism and system of state management of water consumption and water protection, lack of the effective monitoring of the ecological state of the Black Sea and the Azov Sea water, the quality of drinking and sewage water have been defined in “The main directions of the state policy of Ukraine in the field of the environmental protection, use of natural resources and maintenance of the ecological safety”.

From the beginning of 2017, the acts of sanitary legislation, issued by the central executive authorities of the Ukrainian SSR, as well as the USSR, lost their validity in Ukraine. The cancellation of this validity by the relevant order of the Cabinet of Ministers of Ukraine (January 20, 2016, No. 94-p) stipulated the creation of the domestic legislative base, including the base on the issues of water resource protection, the main sources of centralized water supply of the population. At the same time, it was necessary to carry out the analysis of the current normative legal acts of the domestic legislation in the field of the protection of water bodies in Ukraine from pollution and to establish its compliance with the requirements of the Directives of the countries of the European Union as the current legislation of Ukraine does not fully ensure the settlement of relations arising in the process of rational use and protection of water in Ukraine which stipulated the relevance and purpose of our research.

We studied the legal and regulatory framework of sanitary, ecological, water, and town-planning legislation in the sphere of sanitary protection of water bodies from pollution, established its compliance with the requirements of the European Union Directives, and developed measures for the regulation of the problem issues.

Material and methods. The current legislative and normative documents of domestic legislation and the EU directives in the field of protection of water bodies from pollution were the objects of research. In our research, we used the following groups of the methods: general scientific methods (dialectical, method of systematic analysis of normative and legislative documents), special comparative-and-legal one (study on the legal regulation of water protection issues in the normative documents in the EU directives and separate countries), and method of the hygienic substantiation of recommendations.

Results and their discussion. It was established in the National Report on the state of the environment in Ukraine for 2006 that industrial enterprises were the main pollutants of water in Ukraine. In 2006, they abandoned 2,259 million m³ of contaminated water. Housing-and-communal enterprises dropped 1,579 million m³ of contaminated water [1-3]. The solution of separate problems of water body protection and provision of water

supply to the population is provided by the National Program for the Environmental Recovery of the Dnipro River Basin and Improvement of the Quality of Drinking Water (1997); Laws of Ukraine on the approval of the national programs for the protection and reproduction of the environment of the Azov and the Black Seas (2001) and the development of water industry (2002) [1-3].

Water is an integral part of the environment, which performs the important functions – ecological, cultural-and-recreational, economic, etc. According to the Article 13 of the Constitution of Ukraine, the land, its subsoil, ambient air, water, and other resources, located within the territory of Ukraine, the natural resources of its continental shelf, the exclusive (marine) economic zone are the objects of the property rights of the Ukrainian people [4].

Water resources of Ukraine are distributed unevenly and do not comply with the placement of water-consuming branches of the industrial complex. Their largest number (58%) is concentrated in the rivers of the Danube Basin in the frontier regions of Ukraine where the need for water does not exceed 5% of its total supply. Donbass, Kryvorizhzhya, and the southern regions of Ukraine are the least provided with water resources where the enterprises, the largest consumers of water, are concentrated. Agriculture is one of the main consumers of water. Thus, 130-160 m³ of water is consumed for the cultivation of one ton of sugar beet, 800-900 m³ – for one ton of wheat, 4000-5000 m³ – for one ton of raw cotton, 5000-7000 m³ – for one ton of rice. The consumption of water for industrial needs is increasing rapidly. 40 liters of water is used for the production of one can of vegetables, 100 liters – for one kilogram of paper, 600 liters – for one kilogram of woolen fabric, 4500 liters – for one ton of dry cement, 2000 liters of water - for one ton of steel [1].

The provision of the population of Ukraine with high quality fresh water is complicated by the poor quality of water in water bodies. Its most critical state is observed in the basins of the Dnipro, the Seversky Donets, rivers of the Azov Sea, separate tributaries of the Dniester, and the West Bug where the water quality is classified as very dirty (VI class). In addition, the elements of ecological and metabolic regress are inherent for the ecosystems of the most water bodies in Ukraine. According to the UNESCO, Ukraine is fifth among 122 countries of the world by the level of rational use of water resources and water quality, including the availability of treatment facilities. It belongs to the countries with a low water availability and a high level of water consumption [6].

According to the information of the World Health Organization (WHO), the country is considered to be adequately provided with water resources if one person gets at least 1.5 thousand m³ of water per year. By this criterion, Ukraine yields to many European countries, in particular, Great Britain, Italy, France, Switzerland, Austria, where the norm of providing population with natural water 2-3 times and more exceeds the norm established in our country. For example, with the reserves of the local water

resources at the level of 1.7 thousand m³ (1.0 m³ at the expense of local water run-off) per capita Ukraine belongs to the least provided countries in Europe. For comparison, 2.5 thousand m³ of water per capita is in Germany, 2.5 thousand m³ - in Sweden; 3.5 thousand m³ - in France; 5.0 thousand m³ - in Great Britain; 7.4 thousand m³ - in the USA; 5.9 thousand m³ - in the European part of the former USSR, and only in Poland near Ukraine - 1.6 thousand m³ per capita [5].

Today, the water resource potential of the Ukrainian state is characterized by a large anthropogenic load, and the water problem is one of the most acute.

Water pollution zones and coastal protective strips are established in order to prevent pollution of water bodies in accordance with the Water Code of Ukraine (Article 87-88). The coastal protective strips are installed along the banks of the rivers and around the reservoirs along the shore line (in the definite period of time) with a width of 25 meters for small rivers, streams, as well as ponds with an area less than 3 hectares; 50 meters for medium-sized rivers, reservoirs on them, and ponds with an area of more than 3 hectares; 100 meters for large rivers, reservoirs, and lakes. Along the seas and around the sea bays and estuaries, a coastal protective strip is established in the width at least of two kilometers from the edge of water [6]. Coastal protective strips are installed by the individual land management projects. Similar norms of the coastal protective strips are indicated in the main regulatory document of the sanitary legislation "State Sanitary Rules for Planning and Development of Human Settlements, SBN 173-96", approved by the Order of the Ministry of Public Health of Ukraine, 19.06.96, No. 173, registered by the Ministry of Justice of Ukraine, July 24, 1996, № 379/1404. In accordance with the Appendix No. 13 of this document, the economic activity is limited in order to prevent getting of chemical pollutants (nitrogen, phosphatic compounds, phenols, petroleum products, heavy metal salts, etc.) into the country's water basins and pollution of water reservoirs with bacteria, viruses, eggs of worms, Protozoa. Plowing of land (except for the preparation of soil for entanglement and afforestation), as well as horticulture and gardening; storage and use of pesticides and fertilizers; arrangement of summer camps for livestock; the construction of any facilities (except hydrotechnical, navigational, hydrometric, and linear ones), including recreation centers, cottages, garages, and parking lots; washing and service of vehicles and equipment; the installation of garbage dumps, barn storage facilities, storage facilities for liquid and solid wastes, cemeteries, cattle mounds, filtration fields, etc. are prohibited in the coastal protection strips along the rivers, around the reservoirs and on the islands. The coastal protective strip along the seas, sea bays, and estuaries forms a part of the sanitary protection zone of the sea and can be used for the construction of sanatoriums, children's recreation camps, and other medical and recreational facilities with mandatory centralized water supply and drainage. From the point of view of sanitary-and epidemiological safety, there are similar prohibitions for the conduct of the economic activity on the coastal strips along the seas, sea bays, and estuaries, and on the islands in the inland sea water.

The coastal protective strip of water bodies is determined by the area of the land plot, and therefore requires a legislative regulation of this issue at the level of the Land Code of Ukraine.

In this regard, the Basin Department of Water Resources and the State Service for Geology and Subsoil play an important role of state regulation which must take an inventory of the land of water fund, register the land of water fund in the State Land Cadastre. While developing (updating) detailed plans and master

plans, the local governments and the oblast state administrations should put the boundaries of sanitary zones of water bodies in the town-planning cadastre.

According to the Article 93 of the Water Code of Ukraine, the sanitary protection zones are established in order to protect water bodies in the areas of water collection for centralized water supply of the population, therapeutic and sanitary needs. These zones are divided into the strips of a special regime. The boundaries of sanitary protection zones of water bodies are established by the local self-government bodies at their territory in agreement with the central executive body, implementing the state policy in the field of water management, and other central executive authorities. According to the resolution of the Cabinet of Ministers of Ukraine "On the legal regime of zones of sanitary protection of water bodies", the legal regime of zones of sanitary protection of water bodies was approved in order to protect water bodies in the areas of water collection for centralized water supply of the population, medical and recreational needs [7].

In recent years, a number of regulatory acts of strategic importance for the development of water economy of Ukraine and the protection of water resources have been adopted, i.e.: a) Resolution of the Supreme Soviet of Ukraine "On the main directions of the state policy of Ukraine in the field of environmental protection, use of natural resources, and ensurance of environmental safety", March 5, 1998, No. 188/98-VR, its purpose is the implementation of the state policy in the field of the environment, including water policy; b) Resolution of the Supreme Sovite of Ukraine "On the Concept of Development of the Water Economy of Ukraine", January 14, 2000 No. 1390-XIV, adopted for the definition of the strategic goals and main directions for the creation of the conditions for the increase of the environmental sustainability and balanced development of the water management complex; c) the Law of Ukraine "On the National Program for the Development of the Water Economy of Ukraine", January 17, 2002, aimed at the implementation of the state policy on the improvement of the quality water supply of the population and sectors of the economy, solution of water and environmental problems, creation of the conditions for the transition to sustainable and effective water management complex; d) the Law of Ukraine "On Drinking Water, Drinking Water Supply, and Drainage"; e) the Law of Ukraine "On the Ensurance of Sanitary and Epidemiological Well-being of the Population".

Hygienic requirements for the quality of drinking water (by 60 indicators) are presented in the State Sanitary Norms and Rules "Hygienic Requirements for Drinking Water for Human Consumption, SSanRN 2.2.4-171-10" [6].

SanRN 4630-88 "Sanitary rules and norms for the protection of surface water from pollution" has expired according to the mentioned order of the Cabinet of Ministers of Ukraine (January 20, 2016, № 94- p) and is not applicable on the territory of Ukraine. Cancellation of this document without the development and adoption of a new one instead of it, is premature and unjustified. Despite a number of legislative documents, the violations of water quality standards have reached a level that leads to intense pollution and depletion of water resources, degradation of water ecosystems.

For the vast majority of industrial and municipal enterprises, the discharge of the pollutants substantially exceeds the level of maximum allowable discharge. The first of the main causes of surface water pollution is a discharge of the insufficiently cleaned or completely uncleaned chemical harmful substances, including synthetic detergents, municipal and industrial waste

water directly into water bodies through the system of urban sewage. This affects the qualitative composition of water, causes an unpleasant taste and smell of water, the formation of foam on the surface of open reservoirs and makes it difficult to access atmospheric oxygen and leads to the death of living organisms [2].

That is why there is an urgent need for strengthening of sanitary-and-epidemiological component of the law on the protection of water resources.

In January 2017, the Ministry of Regional Development of Ukraine approved the Rules (January 1, 2017, No.316) for the acceptance of sewage to the centralized drainage systems and the Procedure of the determination of the amount of the fee charged for the excessive discharges of sewage to the systems of centralized drainage for the industrial enterprises that discharge industrial waste water through the system of city sewage [19].

The quality of ground water is also constantly deteriorating because of the existence and operation of about 3,000 filtering water storage reservoirs in Ukraine [8-10].

Similar problems are observed in European and other countries. Scientific papers by Moa Kenea and Kristi Pullen Fedinick, Mae Wu, Mekela Panditharatne and others indicate that there is a real sanitary risk of fecal contamination of water protection zones in the event of disruption of existing water supply networks that have been in operation for more than 30 years. This situation is particularly characteristic of rural settlements in European countries [12-14].

In addition, radioactive contamination of water bodies is caused by the global fallout of radionuclides due emissions of the objects, using radiation-hazardous technologies, objects of the uranium industry, the Chornobyl disaster, and it happened both through a direct loss of radioactive aerosols on the water surface and due to the secondary effects: the washing of radionuclides from the surface of the contaminated area of the catchment areas and their transfer to the cleaner regions, the mass transfer between the bottom sediments and water masses, the ingress of the contaminated ground water into surface water, etc.

At the same time, the collective irradiation dose of the population may be increased, depending on the amount of water entering the flood-plain of the rivers in the areas with the high levels of radioactive contamination and washing away a significant amount of radionuclides from the surface layers of the soil.

Permissible concentrations of radionuclides of artificial and natural origin in water bodies of Ukraine were established by the Norms of Radiation Safety of Ukraine (NRSU-97), approved by the order of the Ministry of Public Health of Ukraine of July 14, 1997. No. 208.

Permissible levels of the content of the radionuclides of cesium-137 and strontium-90 in drinking water were established by the order of the Ministry of Public Health of Ukraine, May 03, 2006 No. 256 registered in the Ministry of Justice of Ukraine on July 17, 2006, No.845 / 12719.

A large number of existing regulatory and legal acts in Ukraine aimed at the prevention of the pollution of water bodies, in particular the National Program "Drinking Water of Ukraine" for 2006-2020, approved by the Law of Ukraine, of March 3, 2005 No. 2455-IV, Rules for the protection of inland marine waters and the territorial sea from pollution and littering, approved by the Resolution of the Cabinet of Ministers of Ukraine, 29 February 1996 No. 269, do not take into account the new mechanisms of management, the conditions for power decentralization [11-15].

That is why the national standard-legal framework for the protection of water bodies should be reconsidered taking into account the new economic market relations and the requirements of the directives of the countries of the European Union [16-18]. Legal liability for the violations in the field of water bodies should be also strengthened, in particular: illegal construction within the boundaries of water protection zones and coastal protective strips; illegal creation of the systems for the discharge of recirculating water into water bodies, urban or storm sewer and illegal discharge of recirculating water; avoidance of excessive, emergency, and volley discharges of pollutants into water bodies that can affect the state of water [20,21].

Analyzing the European legislation in this sphere, one can state that the legislation is based on the following principles: compulsory pollution charge; payment for natural resources; creation of state environmental funds; environmental insurance; promotion of the environmental protection.

The agreement, establishing the European Union (EU), signed in Maastricht in 1992, is a basis of the environmental law. The most important legal instruments of the EU are the framework legislation acts - water policy directives. They are based on the principle of the convergence of laws and have a legal force for the EU member states. The European Union regulations (about 10% of the EU legislation) are applied to the EU member states and industrial sectors (enterprises). Decisions of the European Commission apply to a particular country (countries) or industrial sectors (enterprises).

The Water Framework Directive 2000/60 / EC of the European Parliament and the Council of Europe of 23 October 2000 on the establishment of the framework for the Community's activity in the field of water policy aims at the achievement of a "good ecological state" of all ground and surface water (rivers, lakes, transitional and coastal water) in the EU. According to this Directive, the state of surface water is evaluated according to the following criteria: biological indicators (fish, bottom invertebrates, aquatic flora); hydromorphological (structure of river banks, continuity of rivers); physico-chemical (temperature, oxygen saturation); chemical indicators (specific pollutants).

The Framework Directive 2008/56 / EC of the European Parliament and of the Council of Europe of 17 June 2008 addresses the environmental policy requirements for the marine environment and aims at the achievement of a "good ecological state" of marine water bodies and insurance of their protection.

The law on drinking water is regulated by the Directive 98/83 / EC of the Council of Europe of November 3, 1998 on the quality of water for human consumption and aims at the insurance of the population's health protection from the negative impact of any pollution of water for human consumption, ensuring that such water is safe and clean. The Directive establishes the mandatory water quality standards at the EU level (48 microbiological, chemical, and indicator parameters) that are regularly and carefully reviewed by the WHO.

The Directive 2006/7/EC of the European Parliament and of the Council of Europe of 15 February 2006 on the management of water quality for bathing concerns the quality of water for water bodies where bathing is permitted by the national authorities. This Directive regulates water quality indicators for water throughout the entire swimming season. According to this Directive, the member states should take the necessary measures to increase the number of bathing facilities.

In order to protect the EU citizens from the impact of denatured water bodies on their well-being and elimination of the risks to their health, the European Water Conservation Program

was adopted. The measures in the sphere of the land use and environmental state of the EU water; chemical state and pollution of the EU water; efficiency of water resources use; vulnerability of the EU water; the end-to-end solutions and global aspects are proposed in it. The Directive 2008/105/EU of the European Parliament and the Council of Europe of 16 December 2008 provides for the surface water quality standards by 33 prior substances or groups which are of a significant risk to the health through the aquatic environment, in particular: cadmium, lead, mercury, nickel and its compounds, benzene, polycyclic aromatic hydrocarbons, etc. which are classified as hazardous ones.

A number of directives and regulations are directed to the prevention of the pollution of water bodies with the prior pollutants: the Council Directive 91/271/EEC of 21 May 1991 on the purification of urban waste water; the Directive 2006/118/EC 91/271/EEC of the European Parliament and of the Council of Europe of 12 December 2006 on the protection of the ground water from pollution and deterioration; the Directive of the Council of Europe 91/676/EEC of 12 December 1991 on the protection of ground water and surface water from pollution caused by nitrates from agricultural sources, urban waste water treatment; the Regulation (EC) No 648/2004 of the European Parliament and the Council of Europe of 31 March 2004 on the protection of the aquatic environment from the production of the surfactants in detergents. The European legislation also provides a risk management system for flooding of coastal areas. According to the Directive 2007/60 / EC of the European Parliament and the Council of Europe of 26 November 2007 on the assessment and management of flood risks, the member states should develop the flood risk maps and the management plans for prevention, protection, and ensurance of the flood preparedness.

In order to prevent the negative environmental impacts, the Member States must adhere to the requirements of the Directive 2001/42/EC of the European Parliament and the Council of Europe of 27 June 2001 on the assessment of the environmental impact of the separate projects and programs and the Directive 2011/92/EC of the European Parliament and the Council of Europe of 13 December 2011 on the assessment of the effects of certain public and private projects for the environment.

In pursuance of the Implementation Plan of the Directive 2003/35/EC of the European Parliament and the Council of Europe of 26 May 2003 on public participation in the preparation of separate plans and programs relating to the environment and the Directive 2002/4/EC of the European Parliament and the Council of Europe of 28 January 2003 on public access to the environmental information, the Aarhus Convention on the free access to the information, public participation in decision-making and access to the justice in the environmental matters, and the Directives 2001/42 / EU and 2011/92 / EC, the new laws "On Environmental Impact Assessment" and "On the Strategic Environmental Assessment" were adopted in Ukraine. These laws provide for the performance of the assessment of the consequences of the planned activities of business entities on the safety of life of people and their health.

The basic requirements of the EU Directives have already been taken into account in the current domestic sanitary legislation, in particular in SBR №173-96. In order to prevent the pollution of water bodies, the specified legal and regulatory document introduced the prohibitions on:

– waste water discharge containing the substances or products of its transformation in water for which the MPC was not established, as well as the substances for which there are no analytical control methods;

– discharge of waste water, containing the pathogens of infectious diseases with an index of lactose-positive intestinal sticks of more than 1000 in 1dm³;

– discharge of waste water into the reservoir, which may lead to the deterioration of water quality in the places of water use;

– content of harmful chemicals in water of water bodies of economic-and-drinking and cultural-and-household water use above their maximum permissible concentrations.

The above-mentioned normative document also provides for the maximum use of low-waste and non-waste technologies, systems of repeated and recirculating water supply in the design and construction of the industrial and communal objects.

A system of water conduits and water supply networks is the main element, the "spatial framework" in the solution of the planning issues of the centralized water supply of the settlements, i.e. the planning structure of residential and industrial areas. The main epidemiological requirement is a compliance with the standard sizes of sanitary-protective strips of water conduits and water supply networks in order to prevent soil and ground water pollution. This requirement is presented in the normative documents of the Ministry of Public Health of Ukraine SBN 173-96 and SSanRN 2.2.4-171-10 and in the basic documents of the Ministry of Regional Development of Ukraine: SBN B. 2.2-12: 2018 «Planning and Building of Territories», SBN B.2.5.-74: 2013 "Water Supply. External Network and Structures" as well.

In accordance with the specified normative documents, the width of the sanitary-protective strips from the axis of the pipe of the conduits on both sides in dry soils with the diameter of the pipe less than 1000 mm is 10 m, with the diameter of the pipe more than 1000 mm the width is 20 m; in wet soils, regardless of the diameter of the water supply, the width of sanitary-protective strip is 50 m. The sanitary-protective strip of the conduit is a definite area of the land, i.e. the type of land use for the balance holder / provider of centralized water supply service in the city. Except the building component, belonging to the construction of the water supply system itself, the sanitary-protective strips of the conduits and plumbing networks have the sanitary-and-epidemiological one which provides for the presence of a buffer prophylactic zone to ensure sanitary-and-epidemiological safety and protection from the accidental or deliberate pollution of the water supply networks and structures of the system of centralized drinking water supply, as well as territories adjoining them.

Under conditions of dense construction and acute shortage of land plots, the land plots, which partially or completely are within the boundaries of sanitary-protective strips of water conduits, are leased by the bodies of local self-government. At the same time, the tenant pays for the use of the entire area which includes the area of sanitary-protective strips of water conduits. The lack of the official public information in the territorial bodies of water resources management regarding the actual location of water supply networks and facilities of the centralized drinking water supply system on the ground leads to the development of sanitary-protective strips and direct approximation of the new construction to existing water conduits and structures.

To protect the sanitary-protective strips of water supply networks and facilities of the centralized drinking water supply system from the illegal development or misuse of land and to ensure their maintenance in the proper sanitary-and-hygienic state, the bodies of local self-government are offered to develop land management projects for the land plots adjacent to water bodies and to register them in the State Land Cadastre of Ukraine. In order to regulate urban development activity, these land plots

should be applied to the general plans of the settlements as the land of the water fund and to transfer to the territorial authorities of water resources management for maintenance and service with a definition of the list of sanitary-and-hygienic measures for land use.

The sanitary-and-epidemiological component of land use and development at the solution of the issues of water supply of the settlements is an intersectoral regulatory component of the sanitary protection of water objects, which provides a balance between the power of the city authorities, the interests of land users and the operator of the water supply networks for the efficient functioning of the city.

Conclusions.

1. The current legislative-and-regulatory framework of sanitary legislation of Ukraine in the sphere of the protection of water bodies needs the improvement in the orientation of the new mechanisms to the economic regulation, decentralization of power and requirements of the EU Council Directives, the European water quality standards. The normative document "Sanitary Rules and Norms of Surface Water Pollution" should be urgently developed and replaced instead of the abolished SanRN 4630-88.

2. The current national programs on the protection of water bodies need the correction taking into account the strengthening of sanitary-and-epidemiological component and the introduction of the effective monitoring of the ecological state of the Black Sea and the Azov Sea water, the quality of drinking and recirculating water.

3. Water quality of the majority of water bodies in Ukraine which is defined as polluted and dirty (IV-V class of quality). Its most critical state is observed in the basins of the Dnipro, the Siversky Donets, the rivers of the Azov Sea, and separate tributaries of the Dnister River, the West Bug wherein the water quality is classified as a very dirty (VI class). Taking into account all mentioned above, as well as the inherent elements of ecological and metabolic regression of ecosystems in the majority of water bodies in Ukraine, it is proposed to increase the responsibility for the violation of the regime of the economic activity in water protection areas and coastal strips, i.e.:

- illegal construction within water protection zones and coastal protection strips;
- illegal creation of the systems for recirculating water discharge into water bodies, urban or storm water drainage and illegal discharge of recirculating water into water objects;
- excessive, accidental, and volley discharges of the pollutants into water bodies that may affect the state of water.

4. For the protection of the coastal protective zones of surface water sources and sanitary zones of ground water supply sources from the illegal building or misuse of land to provide adequate sanitary quality for drinking water :

- the bodies of local self-government should develop land management projects on the land plots adjacent to water facilities, register the coastal protective strips and zones of sanitary protection of surface water supply sources in the State Land Cadastre; the land of the water fund within the settlements should be applied to the General Plans;
- the regional state administrations, together with the territorial authority of the State Geocadaster should carry out the inventory of the lands of the Water Fund outside the settlements, provide financing of the updating of land documentation from the regional budget, establish the boundaries of the coastal protective zones, sanitary protection zones by the assignment of the cadastral numbers in the State Land Cadastre and transfer the

land water fund for the maintenance and service of the territorial bodies of water resources management with the definition of the list of sanitary measures in land use.

In order to improve a sanitary-and-epidemiological state of water resources in Ukraine, their rational use and protection, it is proposed to conduct the effective state legal policy in the field of water protection, focused on the effective implementation of water legislation of Ukraine, preservation of the water fund of Ukraine, combination of state-legal water policy with other directions of state policy, optimum coordination of water-ecological, sanitary-epidemiological aspects, and social interests, combination of rational consumption and protection of water bodies requiring special protection, priority of drinking water supply and water protection measures; realization of the international agreements for the proper legal, sanitary-and-epidemiological regime of transboundary water bodies, orientation towards the European standards of quantitative and qualitative state of water, ensurance of the implementation of the functions of water use and protection management, formation of the ecological, sanitary-and-epidemiological attitude of the population.

REFERENCES

1. Загальні показники використання водних ресурсів України (про великі водозабори та скиди стічних та інших вод басейнів основних річок України) / дані Держводагентства. UPL: <http://data.gov.ua/dataset/2054e342-fd89-4419-b130-685a9d042990>.
2. Про Національну програму екологічного оздоровлення басейну Дніпра та поліпшення якості питної води: постановва Верховної Ради України від 27 лютого 1997 р. № 123/97-ВР // Відомості Верховної Ради України. 1997. № 41. С.41.
3. Про затвердження Загальнодержавної програми охорони та відтворення довкілля Азовського та Чорного морів: закон України від 22 березня 2001 р. № 2333-III // Відомості Верховної Ради України. 2001. № 28. С.135.
4. Про Загальнодержавну програму розвитку водного господарства України: Закон України від 17 січня 2002 р. № 2988-III (із змінами, внесеними згідно з Законами) // Відомості Верховної Ради України. 2002. № 25. С.172.
5. Прокопов В.О. Питна вода України: медико-екологічні та санітарно-гігієнічні аспекти / В.О. Прокопов; за ред. А.М. Сердюка. К.: ВСВ «Медицина», 2016. 400 с.
6. Про Загальнодержавну програму «Питна вода України» на 2006-2020 роки: закон України від 3 березня 2005 р. № 2455-IV (із змінами, внесеними згідно з Законами) // Відомості Верховної Ради України. – 2005. – № 15. – Ст.243.
7. Про правовий режим зон санітарної охорони водних об'єктів: постановва Кабінету Міністрів України від 18 грудня 1998 р. № 2024 // Офіційний вісник України. 1998. № 51. С.1890.
8. Сердюк А.М., Полька Н.С., Махнюк В.М., Савіна Р.В., Могильний С.М. Гігієна планування та забудови населених місць на варті громадського здоров'я (до 85-річного ювілею ДУ «Інститут громадського здоров'я ім.О.М.Марзєєва НАМНУ»). - К.: Міжрегіональний видавничий центр «Дедінформ», 2017. 271 с.
9. Про затвердження правил приймання стічних вод до систем централізованого водовідведення та Порядок визначення розміру плати, що справляється за понаднормові скиди стічних вод до систем централізованого водовідведення: наказ Мінрегіону № 316 від 01 грудня 2017 року.
10. Про якість питної води та стан питного водопостачання

в Україні у 2016 році: національна доповідь / Міністерство регіонального розвитку будівництва та житлово-комунального господарства України. Київ, 2017. 407 с.

11. Щорічна доповідь про стан здоров'я населення, санітарно-епідемічну ситуацію та результати діяльності системи охорони здоров'я України. 2015 рік. Київ, 2016. 452 с.

12. Threats on Tap: Widespread Violations Highlight need for investment in Water infrastructure and Protections/ Report NRDC. / Kristi Pullen Fedinick, Mae Wu, Mekela Panditharatne, Erik D. Olson.- NRDC, 2017/-26 p.

13. Moa Kenea. Fssessment of faecal contamination and sanitary risk in intermittere piped water systems in rural Nepal / Master of Science Thesis/ UNESCO-IHE Institute for Water Education, Delf, the Netherlands. 2016. 92 p.

14. Antonenko A., Vavrinevych O., Korshun M., Omelchuk S. Grounwater Resource Characterisation and Managmant Aspects / Edited by Moreck Gomo. UK. 2019. 133 p.

SUMMARY

COMPLIANCE WITH STATE REGULATION OF ECONOMIC ACTIVITIES FOR SANITARY PROTECTION OF WATER FACILITIES IN UKRAINE BY EU DIRECTIVES: ECOLOGICAL AND HYGIENIC, ARCHITECTURAL-PLANNING AND LEGAL ASPECTS

¹Makhniuk V.M., ²Makhniuk V.V., ³Dyachenko S., ³Milimko L., ⁴Divchur I.

¹State Institution «O.M.Marzieiev Institute for Public Health, National Academy of Medical Sciences of Ukraine», Kyiv; ²Ministry of Development of Communites and territories of Ukraine, Kyiv; ³National University of the State Fiscal Service of Ukraine, Irpin, Kiev region; ⁴Drinking Water of Ukraine Association, Kyiv, Ukraine

In modern conditions, the use and protection of water is an extremely complex problem. The environmental situation of water resources is relevant for all water basins in Ukraine, since most of the surface and groundwater in Ukraine are polluted.

The aim of the research was to study the regulatory normatively-legal base of sanitary, ecolocal, water and urban planning legislation in the field of sanitary protection of water objects and establishing its compliance with the requirements of the European Union Directives with the development of measures to resolve issues of concern.

Ukraine's international obligations are enshrined in more than 40 global and regional international acts relating to the sanitary protection and use of water resources. The main requirements of the EU Directive (2008/56/EC, 98/83/EC, 2008/105/EC, 2003/35/EC, 2003/4/EC, 2001/42/EC, 2011/92/EC) are already taken into account new laws in force and domestic regulatory documents.

However, the regulatory framework of the legislation of Ukraine in the field of sanitary protection of water objects needs to be improved in terms of focusing on new mechanisms of economic regulation, decentralization of power, the introduction of effective monitoring of the ecological status of the Black and Azov Seas, and the implementation of the requirements of the EU Directives: 2006/7/EC, 2007/60/CC 91/271/CEC, 91/676/CEC and Regulation No648/2004.

In order to improve the sanitary-epidemiological state of water resources in Ukraine, their rational use and protection, it is

proposed to carry out: an effective state and legal policy in the field of sanitary protection of waters, focused on: the effective implementation of water, environmental, urban planning legislation of Ukraine; optimal coordination of architectural and planning, water-ecological, sanitary-epidemiological aspects and social interests; priority of drinking water supply and water protection measures; implementation of international treaties with a view to the proper legal, sanitary and epidemiological regime of transboundary water objects; implementation of European standards for the quantitative and qualitative status of waters; the formation of an ecological, sanitary and epidemiological worldview among the population.

Keywords: Protection zones of water bodies, legislative-and-regulatory documents, state regulation, the EU directives, sanitary-and-hygienic requirements, town-planning activity, development of measures for minimization of the environmental impact, public health.

РЕЗЮМЕ

СООТВЕТСТВИЕ ГОСУДАРСТВЕННОГО РЕГУЛИРОВАНИЯ ХОЗЯЙСТВЕННОЙ ДЕЯТЕЛЬНОСТИ ПО САНИТАРНОЙ ОХРАНЕ ВОДНЫХ ОБЪЕКТОВ В УКРАИНЕ ДИРЕКТИВАМ ЕС: ЭКОЛОГО-ГИГИЕНИЧЕСКИЕ, АРХИТЕКТУРНО-ПЛАНИРОВОЧНЫЕ И ПРАВОВЫЕ АСПЕКТЫ

¹Махнюк В.М., ²Махнюк В.В., ³Дяченко С.В., ³Милимко Л.В., ⁴Дивчур И.Д.

¹Государственное учреждение «Институт общественного здравоохранения им. А.Н.Марзеева НАМН Украины», Киев; ²Министерство развития общин и территорий Украины, Киев; ³Университет государственной налоговой службы Украины, Ирпень, Киевская область; ⁴Ассоциация воды в Украине, Киев, Украина

Целью исследования явилось изучение нормативно-правовых баз санитарного, экологического, водного и градостроительного законодательств в сфере санитарной охраны водных объектов и установление ее соответствия требованиям Директив Европейского Союза с разработкой мероприятий по урегулированию проблемных вопросов.

Международные обязательства Украины закреплены в более 40 глобальных и региональных международных актах, касающихся санитарной охраны и использования водных ресурсов. Основные требования Директив ЕС (2008/56/EC, 98/83/EC, 2008/105/EC, 2003/35/EC, 2003/4/EC, 2001/42/EC, 2011/92/EC) учтены в отечественных новых действующих законах и нормативных документах.

Однако, нормативно-правовая база законодательства Украины в сфере санитарной охраны водных объектов нуждается в совершенствовании по части ориентации на новые механизмы экономического регулирования, децентрализацию власти, внедрение эффективного мониторинга экологического состояния акваторий Черного, Азовского морей и имплементации требований Директив ЕС: 2006/7/EC, 2007/60/EC, 91/271/CEC 91/676/CEC и Регламента №648/2004.

С целью улучшения санитарно-эпидемиологического состояния водных ресурсов в Украине, их рационального использования и охраны предлагается проводить государственное регулирование хозяйственной деятельности в сфере санитарной охраны вод, ориентированной на эффективную

реализацию водного, экологического, градостроительного законодательства Украины; оптимальное согласование архитектурно-планировочных, водно-экологических, санитарно-эпидемиологических аспектов и социальных интересов; приоритетность питьевого водоснабжения и водоохраных мероприятий; реализацию международных договоров с целью надлежащего правового, санитарно-эпидемиологического режима трансграничных водных объектов; имплементацию европейских стандартов количественного и качественного состояния вод; формирование у населения экологического и санитарно-эпидемиологического мировоззрения.

რეზიუმე

უკრაინაში წყლის ობიექტების სანიტარიული დაცვის სამეურნეო საქმიანობის სახელმწიფო რეგულირების შესაბამისობა ევროკავშირის დირექტივებთან: ეკოლოგიურ-ჰიგიენური, არქიტექტურულ-დაგეგმარებითი და სამართლებრივი ასპექტები

¹გ.მ. მახნიუკი, ²ვ.ვ. მახნიუკი, ³ს.დიანენკო, ⁴ლ.მილიმკო, ⁴ი.დივჩური

¹ამარზევეის სახ. საზოგადოებრივი ჯანდაცვის ინსტიტუტი, კიევი; ²უკრაინის თემებისა და ტერიტორიების განვითარების სამინისტრო, კიევი; ³საგადასახადო სამსახურის სახელმწიფო უნივერსიტეტი, ირპენი, კიევის ოლქი; ⁴უკრაინის წყლის ასოციაცია, კიევი, უკრაინა

კვლევის მიზანს წარმოადგენდა სანიტარიული, ეკოლოგიური, წყლის და ქალაქმშენებლობის ნორმატიულ-სამართლებრივი ბაზის შეფასება წყლის ობიექტების სანიტარიული დაცვის სფეროში და მისი შესაბამისობის დადგენა ევროკავშირის დირექტივებთან პრობლემური საკითხების დარეგულირებაზე მიმართული ღონისძიებების შემუშავების ჭრილში.

უკრაინის საერთაშორისო ვალდებულებები ასახუ-

ლია 40-ზე მეტ გლობალურ და რეგიონულ საერთაშორისო აქტში წყლის რესურსების სანიტარიული დაცვისა და გამოყენების შესახებ. ევროკავშირის ძირითადი დირექტივები (2008/56/-, 98/83/-, 2008/105/-, 2003/35/-, 2003/4/-, 2001/42/-, 2011/92/ევროკავშირი) გათვალისწინებულია ახალ მოქმედ სამამულო კანონებსა და ნორმატიულ დოკუმენტებში.

მიუხედავად ამისა, უკრაინის წყლის რესურსების სანიტარიული დაცვის კანონმდებლობის ნორმატიულ-სამართლებრივი ბაზა საჭიროებს სრულყოფას ეკონომიკური რეგულაციის ახალ მექანიზმებზე, ხელისუფლების დეცენტრალიზაციაზე, შავი და აზოვის ზღვების ეკოლოგიური მდგომარეობის ეფექტური მონიტორინგის დანერგვაზე ორიენტაციით და ევროკავშირის დირექტივებისა (2006/7/-, 2007/60/-, 91/271/-, 91/676/ევროკავშირი) და №648/2004 რეგლამენტის იმპლემენტაციის თვალსაზრისით.

უკრაინაში წყლის რესურსების სანიტარიულ-ეპიდემიოლოგიური მდგომარეობის გაუმჯობესების, მათი რაციონალური გამოყენების და დაცვის მიზნით შემოთავაზებულია წყლების სანიტარიული დაცვის სფეროში სამეურნეო საქმიანობის სახელმწიფო რეგულირების განხორციელება, ორიენტირებული უკრაინაში წყლის, ეკოლოგიური და ქალაქმშენებლობის კანონმდებლობის ეფექტურ რეალიზებაზე; არქიტექტურულ-დაგეგმარებითი, წყალ-ეკოლოგიური, სანიტარიულ-ეპიდემიოლოგიური ასპექტების და სოციალური ინტერესების ოპტიმალურ შეთანხმებაზე; სასმელი წყლით მომარაგებისა და წყლის დაცვითი ღონისძიებების პრიორიტეტულობაზე; საერთაშორისო შეთანხმებების რეალიზებაზე წყლის სასაზღვრე ობიექტების შესაბამისი სამართლებრივი და სანიტარიულ-ეპიდემიოლოგიური რეჟიმის შესახებ; წყლის რაოდენობრივი და ხარისხობრივი ევროპული სტანდარტების იმპლემენტაციაზე; მოსახლეობისათვის ეკოლოგიური და სანიტარიულ-ეპიდემიოლოგიური მსფლმხედველობის ჩამოყალიბებაზე.

* * *