

# **GEORGIAN MEDICAL NEWS**

---

ISSN 1512-0112

№ 7 (328) Июль Август 2022

---

ТБИЛИСИ - NEW YORK



**ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ**

Медицинские новости Грузии  
საქართველოს სამედიცინო სიახლენი

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

**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 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.

### WEBSITE

[www.geomednews.com](http://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](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. Корректур авторам не высылаются, 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.nlm.nih.gov/bsd/uniform_requirements.html)  
[http://www.icmje.org/urm\\_full.pdf](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. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შედეგის 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:

Moiseienko Anatolii. LAPAROSCOPIC HERNIOPLASTY IN THE SURGICAL TREATMENT OF VENTRAL HERNIA.....	6
Koval S.M., Snihurska I.O., Yushko K.O., Mysnychenko O.V., Lytvynova O.M. QUANTITATIVE CHARACTERISTICS OF GUT MICROBIOTA IN PATIENTS WITH ARTERIAL HYPERTENSION.....	11
Kamilova U.K., Abdullaeva Ch.A., Zakirova G.A., Tagaeva D.R., Masharipova D.R. ASSESSMENT OF KIDNEY DYSFUNCTION IN PATIENTS WITH CHRONIC HEART FAILURE.....	16
S. Zubchenko, A. Havrylyuk, M. Lomikovska, I. Kril, S. Chuiko. DIAGNOSIS OF AN ALLERGIC REACTION TO ANTIBIOTICS IN AN PATIENT WITH ACTIVE HUMAN HERPESVIRUS -4, -6 TYPE INFECTION (CLINICAL CASE) .....	21
Gromnatska N., Kiselova M., Adegbile T. EARLY PROGNOSIS OF HYPOGALACTIA IN BREASTFEEDING MOTHERS: NEW OPPORTUNITIES FOR PRIMARY PREVENTION.....	27
M.V. Polulyakh, S.I. Gerasimenko, D.M. Polulyakh, A.N. Kostyuk, I.V. Huzhevskiy. ARTHROPLASTY IN DYSPLASATIC COXARTHROSIS.....	34
Badalyan K., Possessor A., Stepanyan Z., Levonyan E., Melkumyan I. USE OF VOLUME-STABLE COLLAGEN MATRIX FOR SOFT TISSUE AUGMENTATION AT TEETH AND DENTAL IMPLANTS SITE .....	38
Osinskaya T.V., Zapolsky M.E., Lebedyuk M.N., Shcherbakova Y.V., Dzhoraeva S.K. PREVALENCE OF THE HERPES SIMPLEX VIRUS (TYPES 1 AND 2) AMONG PATIENTS IN THE PLACES OF DETENTION.....	43
Sartayeva A.Sh, Danyarova L.B., Begalina D.T, Nurgalieva Zh.Zh, Baikadamova L.I, Adilova G.E. GESTATIONAL DIABETES: PREVALENCE AND RISKS FOR THE MOTHER AND CHILD (REVIEW).....	47
Maruta N.A, Atramentova L.A, Utevskaia O.M, Panko T.V, Denisenko M.M THE RECURRENT DEPRESSIVE DISORDERS IN THE VIEW OF THE GENEALOGICAL COMPONENT ESTIMATION.....	53
Shkrobot Svitlana, Budarna Olena, Milevska-Vovchuk Lyubov, Duve Khrystyna, Tkachuk Nataliya, Saliy Maryna. OPTIC NEUROMYELITIS: CASE REPORT AND REVIEW.....	58
Lykhota K., Petrychenko O., Mykhailovska L., Kutsiuk T., Malashenko N. TREATMENT OF SAGITAL ANOMALIES IN A MIXED DENTITION IN CHILDREN WITH SPEECH DISORDERS.....	63
Kuntii A., Blahuta R., Avramenko O., Shehacov R., Marko S. PSYCHOLOGICAL-FORENSIC CHARACTERISTICS OF THE PERSON WHO COMMITTED A PREMEDITATED MURDER IN A STATE OF STRONG COMMOTION.....	69
Saba Abdul Salam Hamid Al-Sultan, Inam Abdulmonem Abdulhameed, Shymaa Faysal Yonis, Yasser Hamid Thanoon. RELATIONSHIP BETWEEN SOME INFLAMMATORY MARKERS AND BACTERIAL INFECTIONS AMONG COVID-19 PATIENTS.....	75
Olga V. Gancho, Tetiana M. Moshel, Olga M. Boychenko, Tetiana D. Bublil, Oleksii P. Kostyrenko, Ivan Yu. Popovich, Svitlana V. Kolomiyets, A. Krutikova. HERBAL MEDICINES ANTIMICROBIAL EFFECT.....	81
Bodnia I.P, Pokhil S.I, Bodnia K.I, Pavliy V.V, Skoryk L.I. DISTRIBUTION AND FREQUENCY OF BLASTOCYSTIS SP. BY METHODS OF MICROSCOPY AND CULTIVATION IN FAECES OF RESIDENTS OF KHARKOV REGION.....	85
Stepanyan L, Asriyan E. PSYCHOPHYSIOLOGICAL CORRELATES OF STUDENTS' WELL-BEING IN ARMENIA.....	90
Natalia Whitney, Annie Fritsch, Alireza Hamidian Jahromi. EVALUATION OF SEXUAL FUNCTION IN TRANSGENDER AND GENDER DIVERSE INDIVIDUALS; A CALL FOR ACTION.....	97
Hadeel Anwar Alsarraje. COVID-19 INFECTION IN THIRD TRIMESTER OF PREGNANCY AND OBSTETRIC OUTCOMES.....	100

Rybalov M.A, Borovets S.Yu, Petlenko S.V, Krasnov A.A, Apryatina V.A. INFLUENCE OF ADDING ZINC ARGINYLE-GLYCINATE TO IMPROVE EFFICACY OF BIOREGULATORY PEPTIDES OF THE PROSTATE GLAND IN TREATMENT OF PATIENTS WITH IMPAIRED SPERM PARAMETERS.....	108
Hany Khairy Mansour, Khaled Mahmoud Makboul, Salah Hussein Elhalawany, Baher Emil Ibrahim, Dina Ahmed Marawan A STUDY OF THE ASSESSMENT OF SERUM ADROPIN LEVEL AS A RISK FACTOR OF ISCHAEMIC HEART DISEASE IN TYPE 2 DIABETES MELLITUS CASES.....	115
Valentyn I. Maslovskiy, Iryna A. Mezhiievskaya FEATURES OF ANATOMICAL LESIONS OF CORONARY ARTERIES DEPENDING ON THE LEVELS OF ST2 AND TROPONIN I IN BLOOD PLASMA IN PATIENTS WITH NSTEMI.....	118
Nikitenko R.P. SENTINEL LYMPH NODES DETECTION METHOD IN BREAST CANCER.....	122
Kamilov Kh.P, Kadirbaeva A.A, Rakhimova M.A, Lukina G.I, Abramova M.Ya, Lukin A.V, Alimova A.V. DISEASES OF THE ORAL MUCOSA IN PATIENTS IN THE POST-COVID PERIOD.....	127
Nakonechna O.A, Vyshnytska I, Vasylyeva I.M, Babenko O.V, Voitenko S.A, Bondarenko A.V, Gargin V. THE SIGNIFICANCE OF ISCHEMIA FOR THE PROLIFERATIVE ACTIVITY OF THE MUCOSA IN INFLAMMATORY BOWEL DISEASES.....	133
Lyazzat T. Yerallyeva, Assiya M. Issayeva, Gulnur Z. Tanbayeva. PNEUMONIA AMONG CHILDREN UNDER 1 YEAR OF AGE: ANALYSIS OF INCIDENCE AND HOSPITAL MORTALITY FROM 2010 TO 2020 IN THE REPUBLIC OF KAZAKHSTAN.....	138
Rudyk Iu.S., Pyvovar S.M. THE USE OF $\beta$ -ADRENOBLOCKERS IN PATIENTS WITH HEART FAILURE AND CONCOMITANT THYROID DISEASE (LITERATURE REVIEW AND OWN OBSERVATIONS) .....	141
Baidurin S.A, Bekenova F.K, Tkachev V.A, Shugaipova K.I, Khusainova G.S. CLINICAL AND FUNCTIONAL STATE OF THE THYROID GLAND IN WOMEN OF PERI- AND POSTMENOPAUSAL AGE WITH METABOLIC SYNDROME.....	148
Romanyuk L., Malinovska L., Kravets N., Olyynyk N., Volch I. ANALYSIS OF ANTIBIOTIC RESISTANCE OF CONDITIONALLY PATHOGENIC OROPHARYNGEAL MICROFLORA IN CHILDREN AFTER VIRAL RESPIRATORY INFECTIONS.....	154
Yunin Oleksandr, Shevchenko Serhii, Anheloniuk Anna-Mariia, Tymoshenko Yurii, Krupiei Viktoriia. DESCRIPTION OF PROVING INTENTIONAL HOMICIDES INVOLVING POISONOUS SUBSTANCES: THE RELATIONSHIP OF MEDICAL AND PROCEDURAL CONTEXTS.....	158

## THE RECURRENT DEPRESSIVE DISORDERS IN THE VIEW OF THE GENEALOGICAL COMPONENT ESTIMATION

Maruta N.A<sup>1</sup>., Atramentova L.A<sup>2</sup>., Utevskaia O.M<sup>2</sup>., Panko T.V<sup>1</sup>., Denisenko M.M<sup>1</sup>.

<sup>1</sup>*Institute of Neurology, Psychiatry and Narcology of NAMS of Ukraine, Kharkov, Ukraine.*

<sup>2</sup>*Department of Genetics and Cytology, V.N. Karazin Kharkiv National University, Kharkov, Ukraine.*

**Introduction.** In the structure of psychiatric pathology, depressive disorders are one of the most widespread and are characterized by the disturbance of mood, decreased motivation, activity, communication, often aggravate the course of other mental disorders and somatic diseases, increasing the risk of the development of suicide, alcohol, and other addictions. The consequence of depression is a decrease in performance, quality of the patient's life, which brings suffering to both him and his close environment [1-3]. According to the official statistics, the probability of developing a depressive disorder over the lifetime course ranges from 22 to 33% [4-6]. Recurrent depressive disorder (RDD) accounts for approximately 1% of all affective disorders [7-9].

The symptomatology of depressive states is heterogeneous and is formed as a result of the complex interaction of three domains within the biopsychosocial model: biological (genetic), personality and social, with each domain having its own level of genetic control [7,10-13]. Assessing the influence of genetic and epigenetic factors, family aggravation, early developmental characteristics, and the impact of excessive stress during life is a complex problem. Familial aggravation, as the fact of finding cases of the same or similar diseases in the family, is a characteristic feature of hereditary diseases, and DDR among them, which creates an opportunity to study specific "family" forms of depressive conditions. It is known that family history can provide important information for predicting disease risk; studies based on family design, where families with high rates of depression and high disease density in the family are the object of study, are extremely rare. Family model is one of the most common in the field of genetic research. It is resistant to genetic heterogeneity, and the study of the relationship of family members can be very informative for predicting an individual's risk of disease based on polygenic and shared environmental components of genetic risk [11,14-18].

In family research, first-degree patients' relatives with psychotic depression were found to be 1.5 times more likely to have DDR than patients with non-psychotic forms, and 3.5 times more likely than healthy controls. In addition, relatives of patients with psychotic depression are more likely to suffer from psychotic forms of depression. For instance, the relatives of those patients with non-congruent psychotic disorders are more frequently registered with the schizophrenia cases, which confirmed the assumption about the genetic proximity of this group to schizophrenia. The results of studies of the family members with psychotic depression hereditary burden also suggests possible hereditary differences when compared with non-psychotic forms of this disorder [7,19]. Twin studies, in addition to hereditary factors of mental illness, have revealed an important role of the environmental factors [17].

An appropriate approach to assessing the hereditary component might be to examine families with cases of DDR across generations, rather than a general sample of patients. For example, patients with a hereditary RDR parentage have a number of distinguishing features, such as the presence of various anxiety disorders even before the first depressive episode, earlier presentation of depressive manifestations, higher prevalence of personality disorders and neuroticism, higher risk of developing not only depression itself, but also suicide risk and substance dependence, indicating a more severe course of this disorder and its worse prognosis [20].

Currently, there are many identified environmental risk factors for depression, including poverty, adverse family relationships and parental divorce, child maltreatment, and other stressful life events in general [21,22]. Depressive disorders are more common among populations in large cities and metropolitan areas, compared with populations living in small towns, villages, and rural areas, more common among populations in developed countries than in backward and developing countries. This difference is probably due to the better quality of medical care, a higher level of health care in developed countries and large cities, and more undiagnosed cases in rural and poor regions. [23,24].

Socioeconomic status and home state are also significant risk factors for disease development. Although loneliness and poverty influence the development of the 1st episode of depression, they have no association with the frequency of recurrent disorders. Studies have shown that marital status can only determine the risk of a recurring episode of depression occurring after inpatient treatment but does not affect the dynamics of subsequent episodes.

Early and precise diagnosis of depression disorders is a high priority task of psychiatry and the key to further effective treatment. Therefore, a comprehensive study of various factors influences, including genetic and genealogical, on the formation of depressive disorders is an important medical and social task.

**The purpose of the study.** was to investigate the contribution of the genealogical component to the genesis of the formation of recurrent depressive disorders.

**Materials and methods.** To estimate a genealogical component in genesis of formation and development of MDD, 108 patients with MDD of the study group and 46 patients without mental disorders of the comparison group were investigated. The diagnosis of depressive disorders was established taking into account ICD-10 criteria. All patients with RDD were divided into three groups, depending on the severity of their depressive symptoms: 36.57% corresponded to a diagnosis of a mild depressive episode (MDE), 26.29% a moderate depressive



episode (MDE), and 37.14% a major depressive episode (MDE). In order to assess the genealogical component, 297 relatives of the main group and 167 relatives of the comparison group were assessed. The set of methods included: clinical and psychopathological, clinical and genealogical, and methods of statistical processing of the obtained data [25].

Main results and their discussion. The clinical and genealogical study was performed using the genealogical tree method. When assessing the genealogical tree, we interviewed the subjects (proband), which includes information about the existence of mental disorders in the probands' relatives (observation by a psychiatrist, presence of depressive disorders, suicidal attempts, alcohol and substance addiction, developmental delays). A similar survey was administered to the comparison group. Based on the results of the survey, a genealogical tree was created for each proband. Each proband was informed of the survey purpose and provided written informed consent to voluntarily participate in the study. The clinical and genealogical analysis process examined each proband's pedigree from degree I to IV of relationship to a depth of 3 generations. An assessment of the pedigree for psychiatric disorders in the main group and comparison group, taking into account female and male lineage of heredity, is presented in Tables 1 and 2.

The results of the hereditary dependence on psychiatric disorders in the female line comparative analysis has showed that among the examined relatives of the main group the frequency of the psychiatrist's visits was 15.15%, the rate of depression - 28.62%, suicide behavior - 5.05%, alcohol addiction - 7.40%,

substance abuse - 1.01%, mental retardation - 2.69%. In the comparison group, the percentage of women with psychiatric disorders was quantitatively different: psychiatric observation - 2.99%, frequency of depression - 5.39%, suicidal behavior - 0.60%, alcohol addiction - 4.19%, substance addiction - 0.00%, mental retardation - 0.60% of the examinees. The obtained data indicated that in the main group of patients with RDD, hereditary burden in the female line was significantly higher for most indicators than in the comparison group; these indicators included: observation by a psychiatrist, the frequency of depression, suicidal behavior, alcohol dependence, mental retardation. Only for the substance dependence indicator, there were no significant differences between the main group and the control group.

The data on hereditary prevalence of psychiatric disorders in male RDR patients are presented in the Table 2.

As we can observe from the comparative analysis of the male lineage of the burden of mental disorders, among the examined men in the main group the rate of observation by a psychiatrist was 8.77%, the rate of depression - 14.39%, suicidal behavior - 5.61%, alcohol addiction - 25.96%, substance addiction - 1.05%, mental retardation - 2.81%. In the comparison group, the percentage of the burden of mental disorders in the male line was reliably lower: the rate of visits to a psychiatrist was 2.20%, the rate of depression - 3.67%, suicidal behavior - 3.67%. There were no significant differences in the rates of alcoholism (25.74%) and substance abuse (1.47%) among this group of examinees, while the indicator of mental retardation was

**Table 1.** Incidence of hereditary burden of mental disorders in the female line in patients with RDD.

Mental disorder	Core group n = 297		Reference group n = 167		CI	p
	N	%	N	%		
Psychiatric observation	45	15,15	5	2,99	7,04	0,05
The Depression	85	28,62	9	5,39	7,25	0,05
Suicidal behavior	15	5,05	1	0,60	8,26	0,06
Alcohol addiction	22	7,40	7	4,19	2,47	0,06
Substance abuse	3	1,01	0	0,00	7,04	0,01
Delayed mental development	8	2,69	1	0,60	6,55	0,08

Note: n - number of individuals in the group, N - number of individuals with the feature being evaluated, p - significance level, CI - confidence interval.

The difference between the percentages in the comparison group and the main group using the F.

**Table 2.** Prevalence of Hereditary Burden of Mental Disorders in the Male Line in Patients with RDD.

Psychotic disorder	Core group, n = 285		Reference group, n = 136		CCI	p
	N	%	N	%		
Psychiatric observation	25	8,77	3	2,20	6,71	0,002
Depression	41	14,39	5	3,67	6,64	0,00005
Suicidal behaviour	16	5,61	5	3,67	2,55	0,96
Alcohol abuse	74	25,96	35	25,74	0,75	0,057
Substance dependence	3	1,05	2	1,47	-0,74	0,34
Mental retardation	8	2,81	15	11,03	-5,23	0,002

Note: n is the number of individuals in the group, N is the number of individuals with the trait being evaluated, p is the significance level, CI is the confidence interval.

The difference between the percentages in the comparison group and the main group using the F.

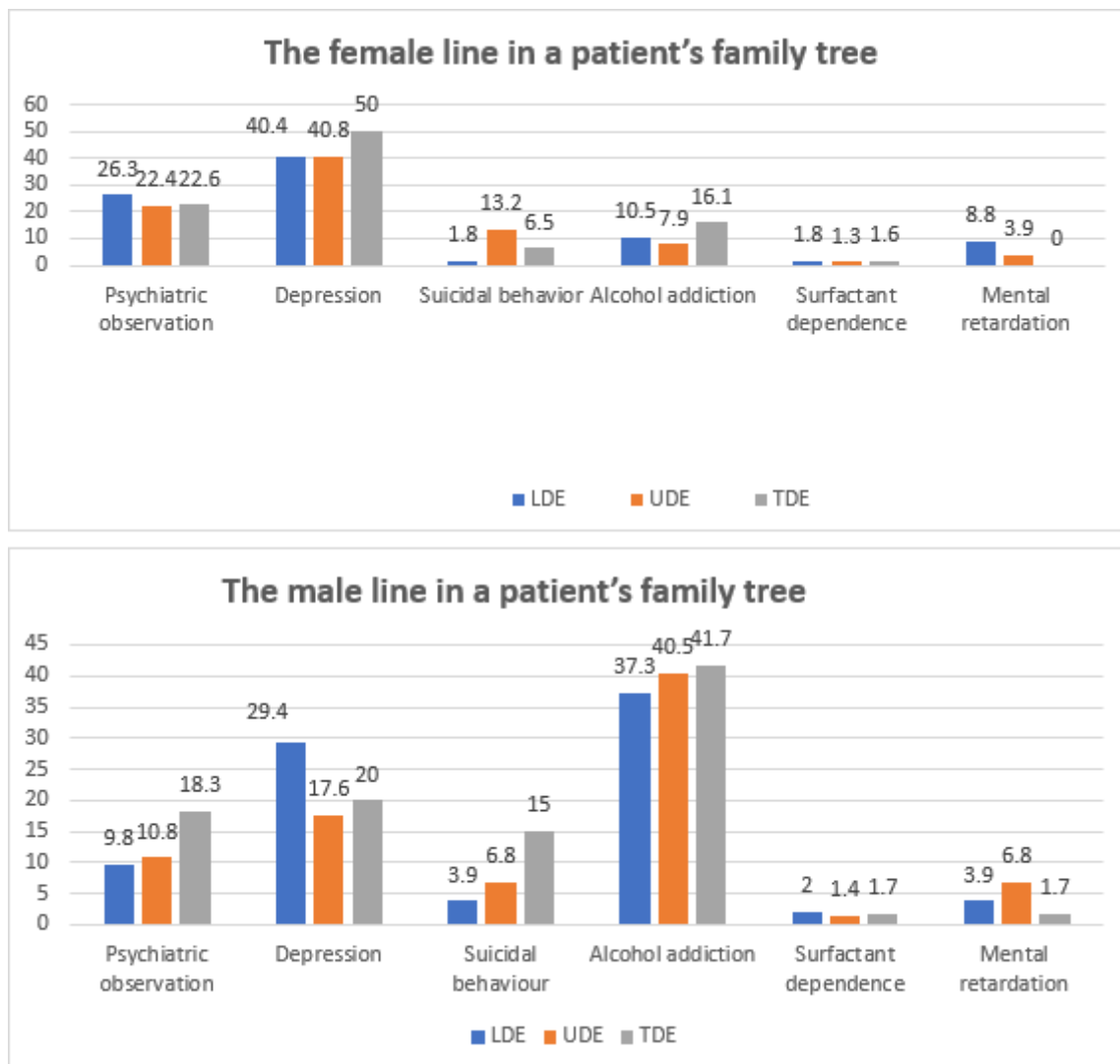


Figure 1. The frequency of psychiatric disorders in the female and male lines in the pedigrees of patients with DDR.

11.03% in the comparison group and was significantly higher than in the main group ( $p = 0.002$ ).

The obtained data indicates the existence of hereditary burden in the male line in the examined main group according to such indicators as observation at the psychiatrist, the frequency of depressions, and suicidal behavior. There were no significant differences in the male line according to the indicator of alcohol and substance dependence in the examined groups.

The study of hereditary burden in patients with RDD depending on sex showed that the presence of depressive disorders in female line is significantly more often registered, and in the male line - depressive disorders and alcohol dependence.

The distribution of mental disorders in the female and male relatives in the pedigrees of the patients with current LDE, UDE, and TDE in the RDR structure is shown in Figure 1.

As shown in Figure 1, the proportion of female relatives under psychiatric observation in the surveyed patients had no significant differences in the pedigrees of patients with LDE, UDE, and TDE and ranged from 22.40% to 26.30% (the differences between the groups with LDE, UDE, and TDE were

statistically insignificant); in the patients' male line relatives with TDE were significantly more frequently observed by the psychiatrist (18.3%,  $p < 0.05$ ).

The occurrence of depressive disorders in the female line relatives for LDE, UDE, and TDE was of high percentage: for LDE in 40.00%, for UDE in 40.80%, and for TDE in 50.00%. In the male line, the most frequent rate was in LDE, 29.4%, in UDE, 17.60%, and in TDE, 20.00%. The highest frequency of the suicides in the structure of the female line relatives was observed in the UDE (13.2%), and in the male line - in the TDE relatives (15.00%). The incidence of suicides among female line relatives in the UDE was more than 7 times higher than in the LDE ( $p < 0.01$ ), and the incidence of suicides in the male line in the TDE was almost 4 times higher than in the LDE ( $p = 0.05$ ).

The incidence of alcohol dependence was high in the male line of heritability from 37.00% to 42.00% and was three to five times lower in the female line estimate from 8.00% to 16.00%. The variance in frequency when evaluating female and male lineage heritability with alcohol dependence was statistically significant for LDE, for UDE, and for TDE ( $p < 0.01$ ).

The frequency of mental retardation was lowest among both female and male lineages examined (0.00% and 1.70%, respectively).

The family accumulation analysis of major depressive disorders in patients' pedigrees revealed that depressive disorders were observed significantly more often (4-10 times) among first-degree relatives - parents, children and siblings - in all the studied patient groups in comparison with the comparison group ( $p < 0.05$ ). Second-degree relatives - grandparents, aunts, and uncles - significantly, but not always statistically significantly, identified individuals with depression, predominantly maternal, in patients with LDE ( $p < 0.07$ ), UDE ( $p < 0.08$ ), and TDE ( $p < 0.02$ ). In general, familial accumulation of depressions was most pronounced among immediate relatives as well as maternal female relatives. The data suggest a significant genealogical contribution to the development of episodes of varying severity in RDR, and also confirms a low threshold for female susceptibility to depression. A high frequency of depressive disorders among maternal relatives and/or the presence of depressive disorders in the parental line may be considered important risk factors for the development of depressive disorders.

### Findings.

1 A substantial accumulation of psychiatric disorders in the pedigrees of RDR patients was revealed, indicating a significant role of hereditary factors in the occurrence of clinical forms of this pathology: The rate of relatives with psychiatric disorders was statistically higher in the pedigrees of patients with RDR than in those in the control group (in the main group the rates of staying under observation by a psychiatrist and the presence of depression in relatives were 6-8 times higher, the availability of the suicidal behavior 2.6-5.0 times higher, the propensity for alcohol dependence 1.5-2.0 times higher ( $p < 0.05$ ), similar rates were noted in the control group.

2 In RDR TDEs, a high incidence of suicidal behaviors among patients' relatives was detected (4 times higher compared to patients with LDEs,  $p < 0.02$ ).

3 Evaluation of gender hereditary burdening aspects revealed that with increasing severity of DDR course, the burdening of patients' family trees with mental disorders increased: the frequency of female relatives with depression (50.00%) and male relatives with depression (20.00%) and alcohol addiction (41.70%) increased.

4 The findings suggest the need to consider heredity factors in the diagnosis, risk assessment of the severity of depression and its recurrence.

### REFERENCES

1. Ferrari AJ, Charlson FJ, Norman RE, et al. Burden of Depressive Disorders by Country, Sex, Age, and Year: Findings from the Global Burden of Disease Study 2010. *PLoS Medicine*. 2013;10:e1001547.
2. Ferrari AJ, Somerville AJ, Baxter AJ, et al. Global variation in the prevalence and incidence of major depressive disorder: A systematic review of the epidemiological literature. *Psychological Medicine*. 2013; 43:471-481.
3. World Health Organization. Depression and Other Common Mental Disorders. 2017;1135-1999.
4. Смулевич АБ. Депрессии в клинической практике врачей общемедицинских специальностей. *PMЖ*. 2011;9:597.
5. Creed F, Dickens C. Depression in the medically illness: Depression and physical illness. Step Cambridge Univ Press. 2007.
6. Weissman MM, Gershon ES, Kidd KK, Prusoff BA, Leckman JF, et al. Psychiatric disorders in the relatives of probands with affective disorders: the Yale University-NIMH Collaborative Study. *Arch. Gen. Psychiatry*. 1984; 41:13-21.
7. Kendler KS, Gardner CO, Neale MC, Prescott CA. Genetic risk factors for major depression in men and women: similar or different heritabilities and same or partly distinct genes? *Psychol. Med*. 2001;31:605-616.
8. Kovacs M, Gatsonis C, Paulauskas SL, Richards C. Depressive disorders in childhood. IV. A longitudinal study of comorbidity with and risk for anxiety disorders. *Arch. Gen. Psychiatr*. 1989;46:776-782.
9. Lieb R, Isensee B, Höfler M, Pfister H, Wittchen HU. Parental major depression and the risk of depression and other mental disorders in offspring: a prospective-longitudinal community study. *Arch. Gen. Psychiatry*. 2002;59:365-374.
10. Незнанов НГ, Мазо ГЭ, Кибитов АО, Горобец ЛН. Атипичная депрессия: от фенотипа к эндофенотипу. *Социальная и клиническая психиатрия*. 2016;26:5-16.
11. Gershon ES, et al. A family study of schizoaffective, bipolar I, bipolar II, unipolar, and normal control probands. *Arch. Gen. Psychiatry*. 1982;39:1157-1167.
12. Glahn DC, Knowles EEM, McKay DR, et al. Arguments for the sake of endophenotypes: Examining common misconceptions about the use of endophenotypes in psychiatric genetics. *American Journal of Medical Genetics, Part B: Neuropsychiatric Genetics*. 2014;165:122-130.
13. Major Depressive Disorder Working Group of the Psychiatric GWAS Consortium. A mega-analysis of genome-wide association studies for major depressive disorder. *Mol. Psychiatry*. 2013;18:497-511.
14. Hollands G, French D, Griffin S, et al. The impact of communicating genetic risks of disease on risk-reducing health behaviour: systematic review with meta-analysis. *BMJ*. 2016.
15. Muller B, Wilcke A, Boulesteix A, et al. Improved prediction of complex diseases by common genetic markers: state of the art and further perspectives. *Human Genetics*. 2016;135:259-272.
16. Pappmeyer M, Giles S, et al. Cortical Thickness in Individuals at High Familial Risk of Mood Disorders as They Develop Major Depressive Disorder. *Biol. Psychiatry*. 2015;78:58-66.
17. Robins L, Regier DA. Psychiatric disorders in America: the epidemiologic catchment area study. New York, NY: Free Press. 1991.
18. St. Pourcain B, Haworth C, Davis O, et al. Heritability and genomewide analyses of problematic peer relationships during childhood and adolescence. *Hum. Gen*. 2014;134:539-551.
19. Rasic D, Hajek T, Alda M, et al. Risk of mental illness in offspring of parents with schizophrenia, bipolar disorder, and major depressive disorder: a meta-analysis of family high-risk studies. *Comprehensive Psychiatry*. 2013;54:34.
20. Касьянов, Е. Д. В поисках "наследственных" форм депрессии: клинические, генетические и биологические подходы. *Социальная и клиническая психиатрия*. 2018;28:74-81.

21. Turner CA, Watson SJ, Akil H. The fibroblast growth factor family: neuromodulation of affective behavior. *Neuron*. 2012;76:160-174.
22. Warner V, Weissman MM, Mufson L, Wickramaratne PJ. Grandparents, parents, and grandchildren at high risk for depression: a three-generation study. *J. Am. Acad. Child Adolesc. Psychiatry*. 1999;38:289-296.
23. Александров АА. Психогенетика: Учебное пособие. СПб. Питер. 2008;192.
24. Маркова МВ, Бабищ ВВ, Степанова НМ, та ін. Особливості аутоагресивної поведінки у пацієнтів з непсихотичними психічними розладами тривожно-депресивного спектру, коморбідними із серцево-судинними захворюваннями та їх психотерапія. *Український вісник психоневрології*. 2008;16:81.
25. Титоренко КВ. Генеалогическое древо как основа жизнеспособности семьи и рода. *Научно-методический электронный журнал «Концепт»*. 2016;11:1631-1635.

**РЕЗЮМЕ**  
**РЕКУРРЕНТНЫЕ ДЕПРЕССИВНЫЕ**  
**РАССТРОЙСТВА В СВЕТЕ ОЦЕНКИ**  
**ГЕНЕАЛОГИЧЕСКОЙ СОСТАВЛЯЮЩЕЙ**

**Марута Н.А., Атраментова Л.А., Утевская О.М., Панько Т.В., Денисенко М.М.**

**Цель исследования** – изучить вклад генеалогической составляющей в генез формирования рекуррентных депрессивных расстройств.

**Материалы и методы исследования.** Обследовано 108 пациентов с РДР, вошедших в основную группу и 46 лиц без психических расстройств, которые составили группу сравнения. С целью оценки генеалогической составляющей было оценено 297 родственников основной группы 167 родственников группы сравнения.

Комплекс методов исследования включал: клинико-психопатологический, клинико-генеалогический и методы статистической обработки полученных данных.

**Результаты.** Установлено существенное накопление психических расстройств в родословных пациентов с РДР, что указывает на значимую роль наследственных факторов в возникновении клинических форм этой патологии: процент родственников, имеющих психические расстройства, был статистически выше в родословных пациентов с РДР, чем у лиц группы сравнения (в основной группе показатели пребывания под наблюдением у психиатра и наличие депрессии у родственников превышали в 6-8 раз, наличие суицидального поведения в 2,6-5,0 раз, склонность к алкогольной зависимости в 1,5-2,0 раза ( $p < 0,05$ ) аналогичные показатели в группе сравнения. При

оценке гендерных аспектов наследственной отягощенности установлено, что при нарастании тяжести течения РДР возрастала отягощенности родословных пациентов психическими расстройствами: увеличивалась частота родственников женского пола с депрессиями (50,00%) и родственников мужского пола с депрессиями (20,00 %) и алкогольной зависимостью (41,70 %). Полученные результаты свидетельствуют о необходимости учета факторов наследственности при постановке диагноза, оценке риска тяжести депрессии и ее рецидивирования.

**Ключевые слова:** Рекуррентные депрессивные расстройства, генеалогия

**SUMMARY**  
**THE RECURRENT DEPRESSIVE DISORDERS IN**  
**THE VIEW OF THE GENEALOGICAL COMPONENT**  
**ESTIMATION**

**Maruta N.A., Atramentova L.A., Utevskaia O.M., Panko T.V., Denisenko M.M.**

**The objective.** of the research is to study the contribution of the genealogical constituent in the genesis of the formation of recurrent depressive disorders.

**Materials and methods of the study.** A group of 108 patients with RDR who were in the main group and 46 persons without mental disorders who were in the comparison group were examined. To estimate the genealogical component, 297 relatives of the main group and 167 relatives of the comparison group were evaluated. The set of research methods included: clinical-psychopathological, clinical-genealogical and methods of statistical processing of the obtained data.

**Findings.** A substantial accumulation of psychiatric disorders in the pedigrees of the patients with RDD was established, which indicates a significant role of hereditary factors in the occurrence of clinical forms of this pathology: the rate of relatives with mental disorders was statistically higher in the pedigrees of patients with RDR than in those in the comparison group (in the main group the rates of staying under observation by a psychiatrist and presence of depression in relatives exceeded 6-8 times, the rate of suicidal behavior 2.6-5.0 times, propensity to alcohol dependence 1.5-2.0 times ( $p < 0.05$ ) similar rates in the comparison group. At estimation of gender aspects of hereditary burdening it has been established, that at increase of severity of DDR course the burdening of patients' family trees with mental disorders increased: the frequency of female relatives with depression (50.00 %) and male relatives with depression (20.00 %) and alcohol addiction (41.70 %) increased. The results indicate the need to consider heredity factors in the diagnosis, risk assessment of the severity of depression and its recurrence.

**Keywords.** Recurrent depressive disorders, genealogy.