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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии
საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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

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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.

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WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

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

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

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

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

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

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

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

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

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

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

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

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

11. Редакция оставляет за собой право сокращать и исправлять статьи. 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.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 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.

Tan Minh Hoang, Hung Dinh Kieu, Vu Nguyen, Trung Kien Tran, Tan Chor Ngee, Ha Dai Duong. CLINICAL AND IMAGING OUTCOMES OF XLIF SURGERY FOR LUMBAR SPINAL STENOSIS.....	6-11
Nino Totadze, Rishu Bansal. NUTRITION AND PHYSICAL ACTIVITY OF PREGNANT WOMEN INCLUDING BARIATRIC SURGERY.....	12-17
Arpine Muradyan. THE EFFECT OF DIFFERENT FITNESS TRAINING PROGRAMS AND FREQUENCY ON HEALTH-RELATED QUALITY OF LIFE.....	18-22
Serhii Terekhov, Andrii Proshchenko, Nina Proshchenko. ANALYSIS OF THE USE OF COMPLEX DIGITAL TECHNOLOGIES IN THE DIAGNOSIS AND TREATMENT OF OCCLUSAL ANOMALIES.....	23-32
Vahe Ashot Ter-Minasyan. FERTILITY FUNCTIONS IN 4VHPV VACCINATED ARMENIAN COHORT.....	33-37
Alaa S. Mahdi, Ahmed H. Salman, Zahraa K. Al-Hassani, Hayder A.H. Jalil. DECODING PEDIATRIC MENINGITIS UNRAVELING THE INTRICACIES OF ANTIMICROBIAL RESISTANCE IN IRAQI PEDIATRIC PATIENTS.....	38-43
Rajab A. Alzahrani, Soliman shreed Soliman, Saadi Rabea Saadi AlGhamdi, Mohammed Abdullah S Alzahrani, Abdullah Mohammed B Alghamdi, Ibrahim Abdulaziz A Alghamdi, Essam Mohammed S Alghamdi, Musab Mohammed B Alzahrani, Yahya Ahmed Salem Alzahrani, Mujtaba Alrayah Fadlalla, Mohammed A. Alghamdi. EFFECT OF ENLARGED ADENOIDS AND TONSILS ON BLOOD OXYGEN SATURATION IN AL BAHA, SAUDI ARABIA.....	44-48
Sivakumar Palanisamy, Priyatharshni Subramani, Prabhu Narasimman, Manikkampatti Palanisamy Murugesan. ADVANCEMENT IN ALPHA-SYNUCLEIN PROTEOMICS: EXPLORING ANALYTICAL TECHNIQUES AND THEIR CLINICAL IMPLICATIONS IN PARKINSON'S DISEASE.....	49-54
Teremetskiy VI, Frolova OH, Batryn OV, Myrza SS, Matviichuk AV, Ryzhenko OS. VECTORS OF DEVELOPMENT OF THE UNIFIED MEDICAL INFORMATION SPACE.....	55-60
Rajaa Hussein Fayadh, Rawnaq Thamer Kadium, H. N. K. AL-Salman, Falah Hassan Shari. HPLC METHOD FOR THE QUANTIFICATION OF SOME ACTIVE FLAVONOIDS IN ETHYL ACETATE EXTRACT OF LEAVES OF BUTEA MONOSPERMA LINN.....	61-64
Tchernev G, Ivanov L, Broshtilova V. MULTIPLE KERATINOCYTIC CANCERS AFTER INTAKE OF ANTIHYPERTENSIVES (LISINOPRIL/ BISOPROLOL/HCT) AND ANTIARRHYTHMICS (PROPAFENONE): THE IMPORTANT NEW LINKS TO THE NITROSO-CONTAMINATION AND THE METABOLIC REPROGRAMMING OF THE FUTURE CANCER CELL.....	65-71
Maryam A. Faiq, Nehad N. Hilal, Mohammed T. Dawood. LEVELS OF OSTEOPROTEGERIN AND IRISIN IN POSTMENOPAUSAL OSTEOPOROSIS WOMEN.....	72-75
Tianhua Du, Guangren Zhou, Shouzhi Wu, Haining Ni. UNDERSTAND THE CURRENT SITUATION OF STUDENTS' PHYSICAL FITNESS TEST AND MEASURES TO IMPROVE THEIR PHYSICAL FITNESS TEST SCORES.....	76-79
Sosonna L.O, Boiagina O.D, Yurevych N.O, Schevtsov O.O, Avilova O.V, Konoval N.S, Sukhina I.S. INDIVIDUAL ANATOMICAL VARIABILITY OF THE ANTEROPOSTERIOR LATERAL DIMENSIONS OF THE FACIAL SKULL IN MATURE ADULTS.....	80-84
Zhanat Ispayeva, Raikhan Bekmagambetova, Mereke Mustafina, Elena Kovzel, Galiya Tusupbekova, Marina Morenko, Timur Saliev, Shynar Tanabayeva, Ildar Fakhraiyev. RELIABILITY AND VALIDITY OF THE KAZAKH-LANGUAGE ACT QUESTIONNAIRE AS AN ASTHMA CONTROL TOOL.....	85-90
Khitaryan D.S, Stepanyan L.S, Khachatryan M.M, Barbaryan M.S. JUDO AS AN ALTERNATIVE INTERVENTION MODEL TO PREVENT BULLYING AT SCHOOLS: A PILOT STUDY.....	91-95
Rania M. Tuama, Entedhar R. Sarhat. THE ROLE OF MYONECTIN IN PATIENTS WITH TYPE 2 DIABETES MELLITUS.....	96-99
Rongmin Xu, Shundong Li, Anhua Zheng, Lianping He. EFFECT OF XIAOYAO PILLS COMBINED WITH ALENDRONATE ON BONE DENSITY IN POSTMENOPAUSAL PATIENTS WITH OSTEOPOROSIS.....	100-101
Nino Kiria, Teona Avaliani, Nino Bablshvili, Nino Chichiveishvili, Giorgi Phichkhaia, Lali Sharvadze, Nana Kiria. EFFICACY AND SAFETY OF SILVER NANOCOMPOSITES ON RIFAMPICIN-RESISTANT M. TUBERCULOSIS STRAIN.....	102-108

Dubivska S.S, Hryhorov Y.B, Lazyrskiy V.O, Dotsenko D.G, Lebid P.B. THE INFLUENCE OF CHANGES IN CARBOHYDRATE METABOLISM INDICATORS IN PATIENTS WITH POLYTRAUMA COMPLICATED BY ALCOHOLIC DELIRIUM ON THE CHOICE OF THE SEDATION METHOD.....	109-115
Karapetyan A.G, Danielyan M.H, Badalyan B.Yu, Simonyan K.V, Grigoryan V.S, Simonyan M.A, Dallakyan A.M, Simonyan G.M, Simonyan R.M. PROTECTIVE EFFECT OF A NEW SUPEROXIDE-PRODUCING ENZYME COMPLEX FROM RASPBERRY IN RATS WITH THIRD- DEGREE THERMAL BURNS.....	116-124
Sura Z. Salih, Nehad N. Hilal. EVALUATION OF SERUM VASPIN LEVEL IN IRAQI WOMEN WITH GESTATIONAL DIABETES MELLITUS.....	125-130
Tchernev G, Ivanov L. MUSTARDE ROTATION FLAP AS ADEQUATE OPTION FOR HIGH-RISK BCC NEAR THE LOWER EYE LID: THE ADDITIONAL INTAKE OF N-NITROSO-FOLIC-ACID AND N-NITROSO-RIVOROXABAN AS COFACTORS/ TRIGGERS OF THE METABOLIC REPROGRAMMING OF THE FUTURE CANCER CELL.....	131-137
Nazym Ailbayeva, Aliya Alimbaeva, Saule Rakhyzhanova, Nazym Kudaibergenova, Duman Berikuly, Sayat Tanatarov, Zaure Dushimova, Timur Saliev, Shynar Tanabayeva, Sergey Lee, Ildar Fakhradiyev. THE IMPACT OF BIRTH WEIGHT ON INFANT MORTALITY IN KAZAKHSTAN.....	138-145
Voloshyn-Gaponov I.K, Lantukh I.V, Mikhanovska N.G, Gulbs O.A, Malieieva O.V, Dikhtiarenko S.Yu, Kobets O.V, Malieiev D.V. PSYCHOTHERAPEUTICAL FEATURES OF PERSONS WITH MULTIPLE SCLEROSIS AND HEPATOCEREBRAL DEGENERATION.....	146-151
Sevak Sanasar Shahbazyan. COMPARATIVE ANALYSIS OF EFFECTS INDUCED BY STANDARD AND MODIFIED LAPAROSCOPIC SLEEVE GASTRECTOMY PERFORMANCE ON SHORT TERM AND DISTAL COMPLICATIONS IN PATIENTS WITH 3RD DEGREE OF MORBID OBESITY.....	152-157
Qutaiba A. Qasim. ANTIOXIDANTS, LIPID PROFILES, AND GLUCOSE LEVELS, AS WELL AS PERSISTENT INFLAMMATION, ARE CENTRAL TO THE LINK BETWEEN DIABETES MELLITUS TYPE II AND OXIDATIVE STRESS.....	157-161
Stepanyan L.S, Khitaryan D.S. RESEARCH ON PSYCHOLOGICAL WELL-BEING AND EMOTIONAL PROFILE OF ADOLESCENTS IN THE CONTEXT OF SCHOOL BULLYING.....	162-166
Yi Jin, Zhi Luo, Hua-Qin Su, Cui-Ping Li, Cai-Li Wang, Li-Fen Zhang, Feng-Lian Peng, Lian-Ping He, Xiang-Hu Wang. SERUM CALCIUM WAS NEGATIVELY ASSOCIATED WITH SERUM IRON AMONG GENERAL POPULATION: FINDINGS FROM A CROSS-SECTION STUDY.....	167-169
Stela Dzotsenidze, Lali Pkhaladze, Jenaro Kristesashvili, Nina Davidovi, Samer Hammoude, Marika Zurmukhtashvili. FUNCTIONAL STATE OF THE REPRODUCTIVE SYSTEM AFTER UNILATERAL OOPHORECTOMY.....	170-174

JUDO AS AN ALTERNATIVE INTERVENTION MODEL TO PREVENT BULLYING AT SCHOOLS: A PILOT STUDY

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Abstract.

This pilot study investigates the effectiveness of a school judo program as an alternative intervention model for bullying prevention. Conducted with 61 schoolchildren aged 10 to 13, the study employed psychological tests and a structured judo curriculum to assess changes in anxiety levels, bullying roles, and psychological traits. Results revealed a significant reduction in situational anxiety and a trend towards decreased personal anxiety among participants. Additionally, a significant decrease in direct and indirect victimization was observed, although no substantial changes were noted in bullying behaviors themselves. Improvements in self-assessment levels of trust, self-awareness, emotion regulation, confidence, and communication skills were also reported. These findings suggest that integrating judo into school programs may enhance psychological resilience and contribute to a safer school environment. However, further research is needed to explore the long-term effects and additional strategies for addressing bullying behaviors directly.

Key words. Judo, bullying prevention, school intervention, anxiety, trust, self-confidence, communication skills.

Introduction.

The issue of bullying in educational institutions, especially in schools and preschools, remains one of the most pressing concerns in modern society. Bullying significantly impacts the mental and emotional well-being of children and adolescents, leading to decreased academic performance, the development of anxiety disorders, depression, and even suicidal thoughts. Additionally, contemporary research highlights how bullying adversely affects not only the current mental and physical health of schoolchildren but also has long-term repercussions, potentially influencing behavior into adulthood [1-5].

In light of these challenges, the need for effective and innovative methods of bullying prevention and intervention is both urgent and pertinent. Traditional approaches have often proven insufficient, creating a growing demand for new strategies that can effectively reduce aggression and improve students' psychological health. Exploring and implementing these novel approaches is crucial for creating a safer and more supportive educational environment.

In this regard, research aimed at studying the impact of judo as a tool for bullying prevention and intervention is particularly significant. Judo, as one of the traditional martial arts based on principles of respect, self-control, patience and discipline, can help children and adolescents develop skills in constructive conflict resolution, improve self-esteem, reduce aggression, and foster positive social behavior, which in turn helps decrease the level of bullying in the school environment.

Additionally, research confirms that children who practice judo are less likely to become victims or aggressors in bullying situations. This is because judo develops self-confidence and the ability to defend oneself, which reduces the likelihood of their involvement in conflicts.

For example, Montero-Carretero et al., in their studies on the impact of a pilot judo program on basic psychological needs, significant changes with moderate to high effects were observed in the indicators of BPN, motivation, tolerance-respect, moral identity, and bullying [6].

In another study, authors revealed that the Judo program intervention decreased all types of aggression and increased levels of emotional intelligence [7].

Khitaryan D. et al. in their study of judokas across different age groups, found that those with more experience in judo exhibited significantly reduced roles as assistants and observers, while their role as defenders was markedly more pronounced. This shift indicates that judo contributes to the development of a proactive life stance and promotes prosocial behavior [2]. In the other hand, Xu, Ting et al. in their study concluded, that the martial arts practitioners have higher levels of self-control and lower levels of aggression and bullying compared to non-martial arts practitioners. Different years and numbers of martial arts exercises had significant effects on self-control, aggression, and bullying in martial arts practicing adolescents [8].

This study evaluated the Gentle Warrior program, a traditional martial arts intervention aimed at reducing aggression in children, which was implemented in three elementary schools and found an increase in empathy and a decrease in aggressive behavior in young children [9].

In another study, the authors, analyzing approximately 410 papers on school bullying, concluded that the physical education teacher plays a key role in maintaining and reducing bullying in schools [10].

Therefore, incorporating judo elements into educational programs not only helps to decrease instances of bullying but also improves students' psychological well-being, fostering a safer and more supportive school environment.

Research that confirms the positive influence of martial arts, including judo, on the psychological development of children and adolescents, already demonstrates the significant potential of this approach. However, the lack of targeted studies focused specifically on the application of judo in the context of bullying prevention and intervention in educational institutions underscores the need for further scientific exploration in this area.

The aim of our study was to assess the impact of a school judo program on the bullying' psychological determinants in adolescents.

To achieve the research goal, the following objectives were defined:

1. To study the extent of various bullying roles within the studied group.
2. To identify the expression of certain psychological characteristics.
3. To determine the effectiveness of the "School Judo" program we developed.

The object of the study was school bullying, and the **subject** was judo as a model for bullying prevention in schools.

Research Hypothesis.

It is hypothesized that judo practice in schools contributes to the development of such personal qualities as respect for others and oneself, communication skills, self-confidence, and also reduces the level of anxiety in adolescents.

Research Methods.

To achieve the research goals and objectives, psychological tests and a pedagogical experiment were used. Within the framework of the psychological tests, the following were employed: the Spielberger-Khanin State-Trait Anxiety Inventory, the D. Olweus Bullying Questionnaire, and a self-developed questionnaire aimed at self-assessment of qualities such as anxiety, physical and verbal aggression, etc.

1. **Spielberger-Khanin scale of reactive and personal anxiety**, consisting of two parts, each with 20 questions. The first 20 questions identify situational anxiety levels, while the second part targets personal anxiety levels.

2. **Olweus Bully/Victim Questionnaire**, consisting of 13 questions and diagnosing the direct bullying (involves 4 questions), indirect bullying (involves 2 questions), direct victim (involves 4 questions) and indirect victim (involves 3 questions).

3. A questionnaire we developed, which consisted of 10 definitions, which the subjects had to rate their severity from 1 to 5 points

For the study of judo's influence, we developed a school judo program consisting of 16 sessions, conducted once a week during extracurricular physical education classes. The program included a variety of judo techniques and exercises structured as follows:

1. Theoretical Material:

o **Safety Rules in the Gym:** Emphasized during the first session to ensure students understand the importance of safety while practicing judo.

o **History of Judo:** Introduced in the second and fifth sessions to provide students with a foundational understanding of the origins and evolution of judo.

o **Moral Code of Judo:** Covered in the third and sixth sessions, highlighting values such as respect, courage, and humility, which are integral to both judo practice and preventing bullying.

o **Classification of Judo Techniques:** Discussed in the second and sixth sessions to familiarize students with the various categories of techniques they would learn.

2. Self-Defense Techniques (Ukemi):

o **Forward Falls (Mae Ukemi), Backward Falls (Ushiro Ukemi), and Side Falls (Yoko Ukemi):** These were introduced

and reinforced consistently from the first session through to the final session to build students' ability to protect themselves when falling.

o **Rolling Forward Falls (Mae Mawari Ukemi):** Introduced in the third session and practiced throughout to ensure students could execute controlled and safe falls in various scenarios.

3. Acrobatic Exercises:

o **Forward and Backward Rolls:** Practiced from the first session onward to develop agility, coordination, and confidence in movement.

4. Movement and Rotation Techniques (Tai Sabaki):

o **Basic Step Techniques (Aymi Ashi and Tsugi Ashi):** These foundational movement techniques were introduced in the third session and practiced until students became proficient.

o **Rotation Techniques (Mae Sabaki, Ushiro Sabaki, Mae Mawari Sabaki):** These were introduced in the sixth session and built upon in subsequent sessions to enhance students' ability to maneuver effectively during judo practice.

5. Grip Techniques (Kumi Kata):

o **Right-Side and Left-Side Grips (Migui Kumi and Hidari Kumi):** Introduced in the sixth session and practiced to ensure students could control and balance their opponent effectively.

6. Throwing Techniques:

o **Various Throwing Techniques (e.g., O Sosto Gari, De Ashi Harai, Koshi Guruma, O Goshi):** These were introduced gradually, beginning in the seventh session, and practiced with increasing complexity to develop students' ability to execute safe and effective throws.

7. Hold-Down Techniques (Osaekomi Waza):

o **Various Hold-Down Techniques (e.g., Hon Kesa Gatame, Yoko Shiho Gatame, Kami Shiho Gatame, Tate Shiho Gatame):** These were introduced from the eighth session onward, focusing on control and pinning an opponent safely.

8. General Physical Conditioning Exercises:

o **Exercises for Shoulders, Abdomen, Back, and Legs:** These were incorporated throughout the program to enhance students' overall physical fitness, strength, and endurance.

9. Movement Games and Specialized Judo Games:

o **Relay Races, Tag Games, and Specialized Judo Games:** These activities were included in various sessions to make the learning process engaging and to develop skills such as teamwork, strategic thinking, and quick reflexes.

The program was structured to ensure that each session built on the previous one, gradually increasing in complexity while reinforcing fundamental techniques and principles. This structured approach was designed to enhance students' physical abilities, teach them important judo skills, and instill values such as respect, self-discipline, and cooperation, which are crucial for bullying prevention.

The obtained data was to were subjected to comparative analysis using Student's T-test with statistical program SPSS-22.0.

Study sample.

Seventy-one schoolchildren aged 10 to 13 participated in the study. However, data from 61 schoolchildren, who completed

all the tests and fully participated in the experiment, were analyzed. Written consent was obtained from the parents of the schoolchildren and the administrations of the three schools after they were informed about the purpose and procedures of the experiment.

Results.

The comparative analysis of situational and personal anxiety indicators under the influence of the school judo program revealed a significant decrease in situational anxiety levels (from 40.3 c.u. to 31.1 c.u.), within the range of average values. The personal anxiety indicators (from 41.5 to 37.5 c.u.) also decreased, but at a trend level (see Figure 1).

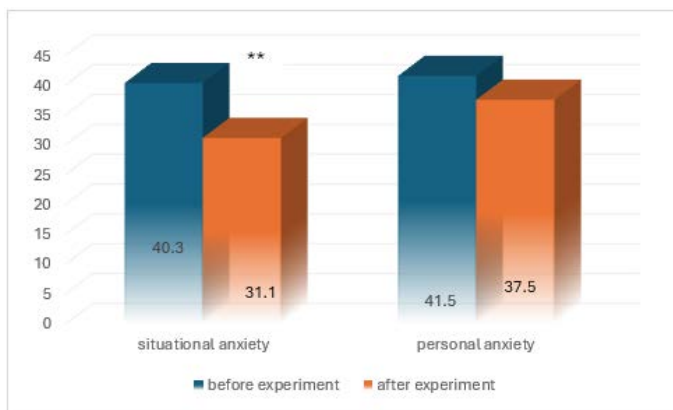


Figure 1. The changes of level of situational and personal anxiety after experiment. Note. **- $p < 0.01$

The comparative analyses of the bullying role indicators revealed a significant decrease in the levels of direct and indirect victimization, while the levels of direct and indirect bullying did not show significant changes (see Figure 2).

The comparative analyses of the self—esteem some psychological features also revealed the significant changes (see Figure 3).

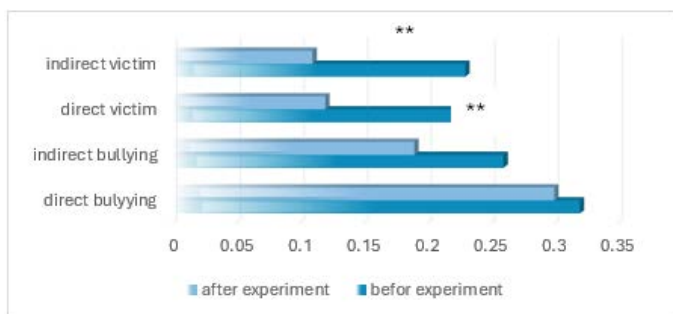


Figure 2. The changes of bullying roles indicators after experiment. Note. **- $p < 0.01$

As shown in Figure 3, the self-assessment levels of anxiety, physical, and verbal aggression significantly decreased, while the self-assessment levels of trust, self-awareness, emotion regulation, confidence in one’s own abilities, and communication skills significantly increased. The observed decrease in anxiety may be linked to improved emotion

regulation skills, enabling adolescents to manage stress and anxiety more effectively. The reduction in physical and verbal aggression could be due to increased confidence in their abilities and enhanced communication skills, reducing the need for aggressive behavior as an emotional outlet. The increase in trust might be attributed to strengthened interpersonal relationships and better communication skills, fostering more open and supportive interactions. The rise in self-awareness reflects the adolescents' growing ability to understand their emotions and behaviors, leading to a more mature approach to various situations. The boost in confidence in one's abilities could be the result of positive changes in self-esteem and successful experiences in managing emotions and social interactions. Lastly, the improvement in communication skills may be related to increased confidence and reduced aggression, making adolescents more effective and assured in social interactions

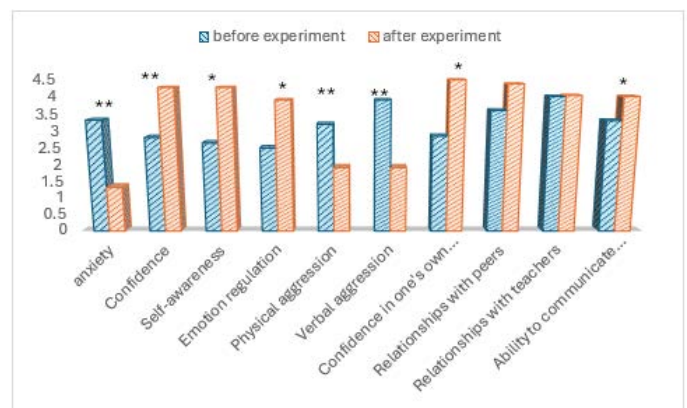


Figure 3. The changes of some psychological features at adolescents in experiment' conditions. Note. *- $p < 0.05$, **- $p < 0.01$.

Discussion.

The findings from this pilot study offer significant insights into the effectiveness of judo as a preventative intervention against bullying in school settings.

The results showed a marked decrease in situational anxiety and a trend towards reduced personal anxiety among the adolescents who participated in the "School Judo" program. These reductions in anxiety levels suggest that judo may provide a coping mechanism for students, helping them manage stress and anxiety in a more controlled and constructive manner. This aligns with previous research indicating that martial arts can enhance emotional regulation and reduce symptoms of anxiety. Thus, Yogi and Kyan, in their investigation indicate that learning judo contributes to a reduction in anxiety and increases the enjoyment of physical activities. Additionally, they highlight the positive impact of judo training on students' daily lives [11].

Moreover, the study observed a significant decrease in both direct and indirect victimization among participants, indicating that judo may be particularly effective in empowering potential victims of bullying. This supports the hypothesis that judo helps in developing self-confidence and self-defense skills, reducing the likelihood of victimization.

However, it is important to note that there was no significant change in the levels of direct and indirect bullying among the participants. This might suggest that while judo can effectively reduce the impact of bullying on potential victims, additional or alternative interventions may be necessary to directly address and reduce the behaviors of the bullies themselves.

The study also revealed significant improvements in several key psychological traits. The self-assessment levels of trust, self-awareness, emotion regulation, confidence in one's own abilities, and communication skills all showed significant increases. These findings are consistent with the underlying principles of judo, which emphasize respect, discipline, and self-control. The enhancement of these traits can contribute to a more positive school environment, as students are better equipped to engage in healthy social interactions and manage conflicts without resorting to aggression. The investigation results Lindell-Postigo et al. indicate that the intervention reduced all forms of aggression and boosted emotional intelligence. There were also increases in social, physical, and academic self-concept, with decreases in family and emotional self-concept. Additionally, a shift towards an ego-oriented motivational climate was observed. Overall, the judo intervention program effectively reduced aggressive behavior and enhanced emotional intelligence and self-concept [12].

Interestingly, the results regarding the levels of physical and verbal aggression showed a significant decrease. This aligns with previous studies that have highlighted the potential of martial arts, including judo, to reduce aggressive behaviors through the cultivation of self-discipline and emotional regulation. The decrease in aggression is a promising outcome, as it suggests that the "School Judo" program not only helps students avoid becoming victims of bullying but also reduces the likelihood of them becoming aggressors.

Conclusion.

This pilot study provides preliminary evidence that judo can serve as an effective alternative intervention for bullying prevention in schools. Judo has been found to be effective in helping individuals avoid bullying, largely due to its emphasis on self-defense, discipline, and confidence-building. One of the distinguishing features of judo is its focus on using an opponent's force against them, which teaches students how to handle physical confrontations without relying on aggression. This "gentle way" philosophy encourages control and respect, both key in de-escalating potential bullying situations.

Other martial arts, like Brazilian Jiu-Jitsu (BJJ) or Karate Shotokan and etc, also teach self-defense and can be effective in preventing bullying. However, judo's specific techniques in throws, holds, and its non-striking nature might be more suitable for avoiding escalation into more aggressive confrontations. Furthermore, judo places a strong emphasis on moral education, respect, and sportsmanship, which can help individuals develop the mental resilience to handle bullying in a non-violent manner.

In comparison to other martial arts, judo's focus on balance, leverage, and quick thinking in high-pressure situations may provide unique advantages, especially in scenarios where the goal is to neutralize a threat without causing harm. This makes it particularly effective in school environments, where

the emphasis is on protection and de-escalation rather than confrontation.

Therefore, in frame of our investigation was shown the positive influence of learning Judo on adolescents' emotional and behavioral outcomes. The significant reductions in situational anxiety, victimization, and aggressive behaviors, coupled with improvements in self-awareness, emotion regulation, and social skills, suggest that judo could play a valuable role in creating safer and more supportive school environments.

However, the lack of significant change in bullying behavior itself points to the need for a more comprehensive approach. While judo has demonstrated its potential in reducing the vulnerability of students and enhancing their psychological resilience, additional strategies might be necessary to address the root causes of bullying behavior.

Further research is warranted to explore the long-term effects of judo-based interventions and to identify the specific elements of the practice that contribute most to its anti-bullying effects. Expanding the sample size, extending the duration of the intervention, and integrating other complementary interventions could provide deeper insights into how to effectively combat bullying in school settings.

Overall, the findings of this study are encouraging and support the integration of judo into school curricula as part of a broader strategy for bullying prevention and the promotion of mental well-being among students.

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