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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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

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

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

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

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

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

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

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

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

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

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

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

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

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

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

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

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

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

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

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

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

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

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

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

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

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

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

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

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

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

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

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

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

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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PECULIARITIES OF THE DEVELOPMENT OF THE PSYCHOLOGICAL STATE OF MEDICAL STUDENTS AND LAW ENFORCEMENT UNIVERSITY CADETS

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Abstract.

Introduction: One of the factors of successful study in a higher educational institution is the psycho-emotional state of a student, including medical students. The military events taking place in Ukraine since 2022 have not only economic, humanitarian and technogenic consequences, they also affect the physical and mental health, well-being of each person, especially in the territories bordering the conflict. In connection with the above, we decided to set the goal of our study to determine the comparison of the development of the psychological state of medical students and cadets of a law enforcement university in conditions of active military aggression.

Materials and methods: The study included medical students and law enforcement university cadets from Kharkiv and Odessa which have constant attacks from February, 2022. All students were divided into two groups depending on educational profile. All students were referred by team of psychologists; such methodology was used as clinical and anamnestic method; to assess the presence of depression in students, the Montgomery-Asberg Depression Rating Scale (MADRS) and GAD-7 scale for generalized anxiety disorder.

Results: The period of dramatic events of the military conflict in Ukraine is determined by the deterioration of the psychological state of medical students and law enforcement university cadets. When determining the level of depression, no significant difference is determined between the number of students relative to each level according to the MADRS scale for students and cadets, but the average MADRS score of medical students is significantly higher (9.72±1.40) than the average score of cadets (5.07±1.14), $p<0.05$. Most cadets (50.86%) had a minimal level of anxiety according to the GAD-7 test, while only 40.00% of medical students had such a level. A high level of anxiety was determined in 8.33% of medical students and 3.43% of cadets ($p<0.05$). There is significant amount of students with moderate-high level of anxiety (60.00% for medical students and 49.14% for law enforcement cadets), $p<0.05$. Also, the mean score of the GAD-7 scale was significantly lower in enforcement cadets (5.29±0.69) than in medical students (7.02±0.73), $p<0.05$.

Conclusions: There is close correlation between indicators of depression and anxiety ($r=0.71$ for medical students and $r=0.54$ for law enforcement cadets) that was estimated after in both groups. Involving students and cadets in physical, social or scientific activities for more than 5 hours per week has a positive effect and is characterized by a feedback loop for both the level of depression and the level of anxiety. The organization of psychological support for students in crisis situations, ensuring the provision of medical and psychological assistance, and the dissemination of information should be taken into account in the organizational algorithm in the event of possible further occurrence of humanitarian, environmental, or technogenic crises.

Key words. Medical students, psychology, MADRS scale, GAD-7 test, anxiety, depression.

Introduction.

One of the factors of successful study in a higher educational institution is the psycho-emotional state of a student [1], including medical students [2,3]. The military events taking place in Ukraine since 2022 have not only economic, humanitarian and technogenic consequences, they also affect the physical and mental health, well-being of each person, especially in the territories bordering the conflict [4].

In the conditions of a brutal war in Ukraine, as well as an increasing large-scale impact on the psychological state of a person, including young people studying in higher education institutions, measures to maintain a healthy psycho-emotional state for effective study are of particular relevance. Solving the problem of chronic stress is possible only with a high level of consciousness and culture of members of society [5], understanding of life-threatening consequences in the environment, and adequate assessment of the current situation [6,7].

On the other hand, the problem of developing the consciousness of employees of internal affairs bodies, which is not only important in this context, but also has an important impact on the state of consciousness of other citizens, both at the level of determining general directions and trends, and in the form of monitoring the consequences of various types of activities (sanctions). They know lawmaking, law enforcement in various areas. All this shows not only the integral professional training, but also the theoretical and practical ability of the individual to engage in professional activities [8,9].

Providing adequate and safe assistance, supporting people in conditions of traumatic factors shows the social responsibility of the state to its citizens. World and Ukrainian experience show that during crisis situations there is a significant restriction of access to medical and legal assistance, including highly specialized [10,11] despite development of ultra modern method of investigation and treatment [12-14]. The need and importance of social support and therapeutic and culturally sensitive interventions for the population affected by stressful

events remain significant. And the need to organize adequate assistance, especially in cases of physical injuries, gunshot wounds, bleeding and psychological support in acute periods, is increasing at times, so the involvement of students of medical and legal higher medical institutions is not only a step in their preparation, but also requires time [4].

In connection with the above, we decided to set the goal of our study to determine the comparison of the development of the psychological state of medical students and cadets of a law enforcement university in conditions of active military aggression.

Materials and Methods.

The study included 355 students (Table 1) of 6 universities (2 medical universities, 2 law enforcement universities, 2 general universities which have medical and law enforcement faculties) from Kharkiv and Odessa. Kharkiv and Odessa are cities which have constant attacks from February, 2022. Students were aged from 16 to 24 years and averaged 19.93 years. All students were divided into two groups depending on educational profile. The study was performed in accordance with the principles of the Helsinki Declaration of the World Medical Association "Ethical Principles of Medical Research Concerning Human Subjects" (2013) with written informed consent.

All students were referred by team of psychologists; such methodology was used as clinical and anamnestic method; to assess the presence of depression in students, the Montgomery-Asberg Depression Rating Scale (MADRS) and GAD-7 scale were used according described early [15,16]. Level of physical activity and involvement in extra-study activities (scientific, social, volunteer activities) were asked. MADRS is clinician-rated and consists of 10 items. Each item is rated on a 0 to 6 scale, resulting in a maximum total score of 60 points, in which higher scores are indicative of greater depressive symptomology [17]. The sum of the individual assessments results in an overall score, which is divided into the following severity categories: 0–12 (without depression), 13–21 (mild), 22–28 (moderate), 29–60 (severe). The GAD-7 scale was used also (questionnaire for assessing the level of anxiety and screening for generalized anxiety disorder). The scale is a test of 7 questions, each of which has four possible answers. For each answer, a certain amount of points is awarded, based on the sum of which a conclusion is made about the level of anxiety. The interpretation of the questionnaire data was performed depending on the obtained result: 0-4 points - minimal level of anxiety, 5-9 - points - moderate level of anxiety, 10-14 points - medium level of anxiety, 15-21 points - high level of anxiety [18].

Statistical processing of the data was performed using the Statistica for Windows 8.0 software package. Methods of descriptive statistics (determination of numerical characteristics of variables - arithmetic mean (M), mean sampling error (m), determination of the reliability of differences (p), which were tested via the Student-Fisher t-test in representative samples) were used. Correlation between indicators was assessed using Spearman's correlation coefficient (r). The difference in values between comparative indicators was considered significant at $p < 0.05$.

Results.

There are signs of depression, psychoemotional disorders and social maladaptation in both groups of students such as refusal to communicate, irritability, increased aggressiveness, but spreading of that sign is uneven. Indicators of Montgomery-Asberg Depression Rating Scale for level of depression detection have been presented in Table 2.

Despite absence of significant difference in study groups for amount of students according each level of depression, there is significant difference between groups for average MADRS. Also interesting is presence of relatively significant amount of participants with depression from mild till severe – general 51(28.33%) for medical students and 42(24%) for law enforcement cadets.

There is close correlation between indicators of depression and anxiety (r=0.71 for medical students and r=0.54 for law enforcement cadets) that was estimated after detection of GAD-7 test in both groups. Results of the GAD-7 test for level of anxiety detection have been presented in Table 3.

There is significant amount of students with moderate-high level of anxiety (108(60.00%) for medical students and 86(49.14%) for law enforcement cadets). That prove about

Table 1. *Characteristics of involved participants.*

	Medical students	**Law enforcement cadets**
Amount	180	175
Male	69	154
Female	111	21
Age	20,03	19,84

Table 2. *Indicators of Montgomery-Asberg Depression Rating Scale of study groups.*

MADRS	**Medical students, n=180/female of them, n=111**	**Law enforcement cadets, n=175/female of them, n=21**
0–12: minimal level of depression, n	129(71.66%)/79(71.17%)	133(76%)/15(71.43%)
13–21: mild level of depression, n	44(24.44%)/27(24.32%)	31(17.71%)/4(19.05%)
22–28: moderate level of depression, n	4(2.22%)/3(2.70%)	7(4%)/2(9.52%)
29–60: severe level of depression, n	3(1.66%)/2(1.80%)	4(2.29%)/0(0.00%)
average MADRS	**9.72±0.43/9.75±0.49**	**5.07±0.16*/5.10±0.53**

*Note: * - significant difference between groups (p<0.05).*

Table 3. *Level of anxiety of study groups.*

GAD-7	**Medical students, n=180/female of them, n=111**	**Law enforcement cadets, n=175/female of them, n=21**
minimal level of anxiety (0-4 points), n	72 (40.00%)/44(39.64%)	89 (50.86%)*/11(52.38%)
moderate level of anxiety (5-9 points), n	53 (29.44%)/32(28.2%)	49 (28.00%)/6(28.57%)
medium level of anxiety (10-14 points), n	40 (22.22%)/25(22.52%)	31 (17.71%)/3(14.29%)
high level of anxiety (15-21 points), n	15 (8.33%)/10(9.01%)	6 (3.43%)*/1(4.76%)
average GAD-7	**7.02±0.33/77.12±0.37**	**5.29±0.29*/5.34±0.41**

*Note: * - significant difference with the initial level (p<0.05).*

Table 4. *Relationship between cognitive peculiarities with indicators of MADRS and GAD-7.*

Activity	**Medical students**		**Law enforcement cadets**	
	MADRS	**GAD-7**	**MADRS**	**GAD-7**
Physical activity	-0.79	-0.71	-0.73	-0.69
Social activity	-0.71	-0.63	-0.64	-0.64
Scientific activity	-0.55	-0.56	-0.61	-0.55

more developed level of anxiety in medical students ($p<0.05$).

Extremely important results were obtained for students and cadets who have physical, social or scientific activity more than 5 hours per week with reverse connection both for depression and anxiety (Table 4).

Initially, we have to recognize that the possible difference between groups is connected with a significant gender disparity among participants, as there are 61.67% females among medical students and only 12.00% among officer candidates. However, the analysis of individual indicators for both the MADRS scale and the GAD-7 test did not reveal any gender-dependent differences. There were no significant differences in the percentages between genders, nor were there significant differences when analyzing female students separately for each estimated position ($p > 0.05$ for all comparisons).

Discussion.

The formation of a specialist's personality occurs throughout life with an important influence of the socio-cultural environment, especially during professional education. If the nature of the interaction of the individual and the surrounding world occurs in unfavourable conditions, a person opposes himself to the forces and objects of the environment, which can lead to the formation of depressive disorders, and in conditions of military operations to post-traumatic stress disorder [5,11].

This affects, to a certain extent, also the intensity and extensiveness of the acquisition of knowledge and skills. Therefore, the psycho-emotional state of the student and the rational distribution of educational and free time for better results in education are of great importance in the issue of the quality of education. At the same time, it should be noted that most students do not have a high level of awareness of their own psychological state, ways to identify the first signs of emotional exhaustion, and correction skills, which quite often leads to alcohol abuse, smoking, and other harmful habits, which ultimately further disrupts the psycho-emotional state and can lead to health problems. The lack of ability to adequately assess the possible consequences of a violation of psychological status, primarily from the standpoint of harmonizing relations in the "society-personality" system, is explained by the low level or absence of self-correction skills. An important role in this is played by understanding the dependence of the health of both an individual and all of humanity on the state of the environment. In the context of this problem, it is necessary to develop the need for the individual to lead a healthy lifestyle, which is one of the criteria for the effectiveness of education and upbringing. Therefore, psychological methods of influence in the context of regulating relationships include suggestion, guidance and management, intervention, acceptance of a person, understanding and compassion, trust, anticipation, empathy, reflection, and identification [19,20].

The cities of Kharkiv and Odesa are frontline areas that have been most affected by military action. This has led to significant population migration, both within the region and abroad. The situation that took place in 2022-2025 has changed too many things, ordinary and everyday. Among them is the ability to receive psychological help, while in stressful situations or in conditions of danger, the ability to access such help becomes a basic need, including for students, given that young people are prone to destructive habits that have a very negative impact on health. In general, various methods or their combinations are used when analyzing the psycho-emotional state. We have chosen the MADRS scales to determine the level of depression, and the GAD-7 to determine the level of anxiety. These methods can be used both as a screening tool and as a diagnostic tool. Determining the level of depression and anxiety, despite its strengths and limitations, helps clinicians and researchers make informed decisions. This knowledge will allow for reliable and accurate measurement of post-traumatic stress disorder (PTSD) symptoms, which is vital for the effective study and treatment of PTSD [21,22].

When analyzing the results of our study, it is important to consider not only the scores obtained on individual scales, but also their ratio. In a person who does not have signs of psycho-emotional fatigue / psycho-emotional disorders, the ratio of well-being, activity and mood assessments can be almost the same, equal in points.

According to the results of our study, it was also found that the dissemination of information about the possibility of obtaining psychological and medical assistance, including from educational institutions, was not properly organized. Scientific results of studies on the need to establish medical

and psychological assistance have been published. It should be noted the need to spread support programs in conditions of traumatic factors for young people and, in particular, students. These features must be taken into account when developing algorithms for providing medical care in the event of possible man-made, environmental or humanitarian disasters. The data we obtained are consistent with publications that emphasize the thesis that Ukrainian citizens have problems with mental health and sleep due to the Russian-Ukrainian war, which are associated with numerous social factors. Thus, in our opinion, it is very important to involve students and cadets in physical, social or scientific activities for more than 5 hours a week, which has a positive effect and is characterized by feedback for both the level of depression and the level of anxiety. Described processes could be background for non-visible psychiatric disordes [23,24] and reason for complication of somatic pathology [25,26] and traumatic injury [27,28].

A previous meta-analysis [29] reported a global prevalence of depression among medical students of 28.0% (95% confidence interval 24.2–32.1%). Women, first-year students, postgraduate students and medical students from the Middle East were more likely to suffer from depression, but the differences were not statistically significant. Our results are somewhat unexpected, as we obtained almost the same indicators, but in conditions of military aggression 28.33% for medical students and 24% for law enforcement cadets.

However, the picture of anxiety is different, with significant differences from the global level. A well-known meta-analysis indicates that the prevalence of anxiety among medical students worldwide is 33.8%, which is significantly higher than in the general population [30]. According to our data, the 60% with moderate, medium and high levels of anxiety is twice as high as this figure, which is a consequence of military actions in the country. Further research and interventions should be based on our findings and identify risk factors for anxiety in medical students in their respective socio-cultural contexts, so that effective screening strategies can be developed to identify and help affected medical students. Anxiety has dire consequences for both the medical student (future doctor) and the patients. The administration and leaders of medical schools should take the initiative in destigmatizing mental illness and promoting help-seeking when students experience stress and anxiety. The organization of psychological support for students in crisis situations, ensuring the provision of medical and psychological assistance, and the dissemination of information should be considered in the organizational algorithm in the event of possible further humanitarian, environmental or man-made crises [31-33].

It is known that individuals who suffer from psychopathology after a major social crisis (e.g., post-traumatic stress disorder) may require more intensive interventions, such as individual psychotherapy. Indiscriminate application of solutions designed for more temporary symptoms of stress in these more severe cases may prove ineffective or even harmful to promoting psychological health [20].

One of the interesting results in our investigation is connected with absence of differences for genders in study parameters. There is data that persistence of identified risk factors, such as non-male gender suggest that efforts to curb medical student distress have been inadequate to date [34]. Simultaneously, even systematic review works prove that currently available information is insufficient to draw firm conclusions on the causes and consequences of student distress. Large, prospective, multicentre studies are needed to identify personal and training-related features that influence depression, anxiety, and burnout among students and explore relationships between distress and competency [35].

The use of the training complex in the conditions of professional activity will allow maximum consideration of existing methods and means of training professionally significant cognitive qualities of specialists so that they most effectively contribute to the improvement of the processes of memorization, concentration of attention, analysis and generalization of the information received for its further use in educational and professional activities.

Conclusion.

The period of dramatic events of the military conflict in Ukraine is determined by the deterioration of the psychological state of medical students and law enforcement university cadets. When determining the level of depression, no significant difference is determined between the number of students relative to each level according to the MADRS scale for students and cadets, but the average MADRS score of medical students is significantly higher (9.72±1.40) than the average score of cadets (5.07±1.14), $p<0.05$. Most cadets (50.86%) had a minimal level of anxiety according to the GAD-7 test, while only 40.00% of medical students had such a level. A high level of anxiety was determined in 8.33% of medical students and 3.43% of cadets ($p<0.05$). There is significant amount of students with moderate-high level of anxiety (60.00% for medical students and 49.14% for law enforcement cadets), $p<0.05$. Also, the mean score of the GAD-7 scale was significantly lower in enforcement cadets (5.29±0.69) than in medical students (7.02±0.73), $p<0.05$.

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Conflict of interest statement.

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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