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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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PSYCHOLOGICAL FEATURES OF THE REHABILITATION OF PERSONS WITH UROLITHIASIS

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Abstract.

Introduction: Urolithiasis, a common and painful condition, is influenced by various risk factors and can be mitigated through preventive measures and can be a painful condition associated with significant individual and health care burdens. For many, urolithiasis is a chronic disease, and chronic diseases are known to have a significant impact on the quality of life of the sufferers with development anxiety and depression. The goal of research was study of depression and anxiety level to develop and test a complex of psychological interventions in the system of psychosocial assistance of patients with urolithiasis.

Materials and methods: The study included 134 patients (men – 74, women – 60) with non-obstructive stones of the renal pelvis who obtained prescription for uteroscopic lithotripsy or percutaneous nephrolithotripsy and psychological help was suggested. All patients were referred by complex team of specialists with including urologist and psychologists; such methodology was used as clinical and anamnestic method; to assess the presence of depression in patients, the Montgomery-Asberg Depression Rating Scale (MADRS) and GAD-7 scale were used.

Results: The signs of depression, psychoemotional disorders and of social maladaptation were evenly estimated in patients with urolithiasis as refusal to communicate, the reaction of "denying the diagnosis", irritability, increased aggressiveness, resigned from work immediately after the diagnosis. Signs of depression had tendency to increase before urological procedure and evenly reduced after performing in patients who refuse psychological assistance. The patients who receive psychological help are characterized by significant reducing signs of depression even before procedure. During the debriefing, the patients of that group were more actively interested in finding ways to solve both difficult everyday situations and problems related to the loss of health. Best psychological condition was established after performing procedure that could be explained escaping from expectation of possible complications in procedure. No one patient with severe level of depression was observed in one day after procedure. Similar picture was estimated and for anxiety dynamic. But absence of patients with high level of anxiety was found only for patients who obtained psychological assistance. Simultaneously there wasn't a close correlation between indicators of depression and anxiety (r=0.53).

Conclusions: Majority of people who endured urolithiasis have initial mild level of depression (average MADRS about 24 points) and medium level of anxiety (average GAD-7 about 11.5 points). Psychological assistance could reduce it till 10.21±2.03 and 7.88±0.53 accordingly. The data obtained in the course of the work testify to the effectiveness of conducting a complex of psychotherapeutic interventions using cognitive training, cognitive-behavioral psychotherapy in the system of psychosocial rehabilitation. Results provide critical information on the efficacy of psychological rehabilitation for people who expected uteroscopic lithotripsy or percutaneous nephrolithotripsy.

Key words. Urolithiasis, debriefing, compliance, psychological assistance, uteroscopic lithotripsy, percutaneous nephrolithotripsy.

Introduction.

Urolithiasis, a common and painful condition, is influenced by various risk factors and can be mitigated through preventive measures [1]. This is a chronic disease characterized by metabolic disorders with the formation of stones in the kidneys and urinary tract, which are formed from the components of urine. This is one of the most common diseases of the kidneys and urinary tract. Urolithiasis is diagnosed in 32-40% of all urological pathologies and ranks second after infectious and inflammatory diseases. Urolithiasis can be a painful condition associated with significant individual and health care burdens. For many, urolithiasis is a chronic disease, and chronic diseases are known to have a significant impact on the quality of life (QoL) of the sufferers [2]. Several studies have shown that anxiety and depression, termed psychological distress, may be associated with urolithiasis [3]. As urolithiasis is associated with frequent recurrences, such patients may develop a chronic condition associated with poor quality of life and depression for example [4]. The frequency and severity of stones episodes would relate to depression. Due recurrent course, urolithiasis can be significantly associated with anxiety [5]. There are data about the effect of stone episodes on patient psychological well-being. Patients with stressful life factors such as low income, mortgage problems and emotional life events were more likely to have symptomatic stone episodes and it was demonstrated that having multiple stone episodes per year or having symptoms of renal colic were significantly associated with stress [6,7].

The management of patients with urolithiasis services continuously evolving with necessary findings for improvement and inform decision as makers within the health system to better understand the lived experiences of tailor services and policies appropriately [8,9]. One of the crucial medical hypotheses is the importance of psychological supporting of patients with variable pathological conditions and diseases for improvement quality of life that requires creation of effective psychological

and psychiatric [10]. Therefore, urologists and other specialists should diagnose patients suspected condition with this disease and provide proper medical care.

In connection with described above, we set the task of our research study of depression and anxiety level to develop and test a complex of psychological interventions in the system of psychosocial assistance of patients with urolithiasis.

Materials and Methods.

The study included 134 patients (men – 74, women – 60) with non-obstructive stones of the renal pelvis, who were being treated at Regional Medical Clinical Center of Urology and Nephrology named after V.I. Shapoval" (Kharkiv, Ukraine). All patients underwent a clinical and laboratory examination, which included an assessment of general blood and urine analysis indicators, blood biochemical indicators (urea, creatinine), multispiral computed tomography with contrast on a Toshiba Aquilion 16 X-ray computed tomography scanner with detection of renal stones, aged 20-73 years (average age 46.4±8.5 years). All patients obtained prescription for uteroscopic lithotripsy or percutaneous nephrolithotripsy and psychological help was suggested.

The patients were divided into groups depending on the receipt of psychological help. The first group of patients consisted of 34 patients who refused psychological help. The second group, namely 100 patients, consisted of patients who received psychological help during observation with urolithiasis. The patients of that group received an intensive course of psychological influence through psychological counselling using elements of cognitive and positive psychotherapy (individual counselling), a method of psychological self-regulation, and cognitive training before urological procedure (UP) which was performed as uteroscopic lithotripsy or percutaneous nephrolithotripsy. 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 patients were referred by complex team of specialist with including urologist and psychologists; such methodology was used as clinical and anamnestic method; to assess the presence of depression in patients, the Montgomery-Asberg Depression Rating Scale (MADRS) and GAD-7 scale were used. 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 [11]. 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 number 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 [12]. Rate of anxiety and depression was estimated three times in each patient: on moment of diagnosis of urolithiasis, one day before and after urological procedure (uteroscopic lithotripsy or percutaneous nephrolithotripsy).

Psychological counselling using elements of cognitive and positive psychotherapy (group and individual counselling) was carried out as a method of psychological influence; method of psychological self-regulation; cognitive training in accordance with previously published recommendations. Classes were performed individually under the supervision of a psychologist, duration 20-25 minutes, at least 10 sessions for the rehabilitation period. Such combination of methods was described in our previous publication [13]. The cognitive and positive psychotherapy was performed as a method of psychological influence; method of psychological self-regulation; cognitive training in accordance with previously published recommendations [14]. Classes were performed individually under the supervision of a psychologist, duration 20-25 minutes, at least 10 sessions for the rehabilitation period. Criteria for termination of the session: worsening of the patient's health and feeling of fatigue. The main goal of cognitive psychotherapy was self-awareness and acceptance of one's illness, working through fears related to the recurrence of the disease, forming an image of the future and a picture of health.

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.

The signs of depression, psychoemotional disorders and of social maladaptation were evenly estimated in both study groups such as refusal to communicate, the reaction of "denying the diagnosis", irritability, increased aggressiveness, resigned from work immediately after the diagnosis. Indicators of Montgomery-Asberg Depression Rating Scale for level of depression detection have been presented in Table 1. Signs of depression had tendency to increasing before UP and evenly reduced after performing.

The second group consisted of patients who received psychological help is characterized by significant reducing signs of depression even before procedure. During the debriefing, the patients of the second group were more actively interested in finding ways to solve both difficult everyday situations and problems related to the loss of health. Best psychological condition was established after performing UP that could be explained escaping from expectation of possible complications in procedure. No one patient with severe level of depression was observed in one day after procedure.

Similar picture was estimated and for anxiety dynamic. But absence of patients with high level of anxiety was found only

Table 1. *Indicators of Montgomery-Asberg Depression Rating Scale of study groups.*

Rates of MADRS	Persons with urolithiasis, (N=134)					
	Persons without psychological assistance (N=34)			Persons with psychological assistance (N=100)		
	Initial rate	One day before UP	One day after UP	Initial rate	One day before UP	One day after UP
0–12: minimal level of depression, n	2 (5.88%)	-	9 (26.47%)	6 (6%)	48 (48%)*	53 (53%)*
13–21: mild level of depression, n	21 (61.76%)	18 (52.94%)	20 (58.2%)	60 (60%)	41 (42%)*	44 (44%)*
22–28: moderate level of depression, n	9 (24.47%)	11 (32.35%)	5 (14.71%)	27 (27%)	11 (11%)*	3 (3%)*
29–60: severe level of depression, n	2 (5.88%)	5 (14.71%)	-	7 (7%)	-	-
average MADRS	**24.23±2.41**	**27.07±1.54**	**17.19±1.39**	**24.89±2.18**	**11.33±2.40***	**10.21±2.03***

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

Table 2. *Level of anxiety of study groups.*

GAD-7	Persons with urolithiasis, (N=134)					
	Persons without psychological assistance (N=34)			Persons with psychological assistance (N=100)		
	Initial rate	one day before UP	one day after UP	Initial rate	one day before UP	one day after UP
minimal level of anxiety, n	-	-	2 (5.88%)	1 (1%)	9 (9%)	15 (15%)
moderate level of anxiety, n	8 (23.53%)	3 (8.82%)	11 (32.35%)	24 (24%)	71 (71%)	73 (73%)
medium level of anxiety, n	19 (55.88%)	23 (67.65%)	19 (55.88%)	54 (54%)	18 (18%)	12 (2%)
high level of anxiety, n	7 (20.59%)	8 (23.53%)	2 (5.88%)	21 (21%)	2 (2%)	-
average GAD-7	**11.65±0.66**	**12.39±0.83**	**10.22±0.70**	**11.77±0.81**	**8.38±0.90***	**7.88±0.53***

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

for patients who obtained psychological assistance. Other positive changes were detected with more positive results also. Simultaneously there wasn't close correlation between indicators of depression and anxiety (r=0.53). Results of the GAD-7 test for level of anxiety detection have been presented in Table 2.

Discussion.

In today's world, more and more adults are facing chronic physical illnesses that significantly impact their lives and health. Chronic illnesses can lead to ongoing discomfort and negatively impact a person's psychological state. The psychological discomfort that accompanies chronic physical illnesses can be very difficult for adults. Feelings of helplessness, fear, anxiety, and depression can become a constant companion of their lives. This affects their quality of life and ability to do everyday things. However, there is a way to reduce the psychological discomfort that accompanies chronic physical illnesses [15,16]. Therapy, namely psychotherapy, can be an auxiliary tool to alleviate the psychological state of adults facing chronic illnesses. It allows a person to focus on their emotions, thoughts, and feelings, as well as find ways to overcome negative emotions and restore psychological comfort.

Urolithiasis is characterized by appearance of renal colic (RC) that is an attack of acute pain in the kidney area caused by obstruction of the upper urinary tract. As a rule, the occurrence of RC is associated with the migration of stones from the calyx or pelvis of the kidney into the ureter. Mechanism of occurrence of RC is connected with impaired urine outflow, an intrapelvic pressure increase, which leads to impaired microcirculation in the kidney, venous stasis and irritation of the receptors of the sensitive nerves of the portal vein and the fibrous capsule of the kidney, resulting in a characteristic attack of pain.

Urolithiasis negatively impacts quality of life and having more stone episodes worsens quality of life. There are studies have linked depression to stone disease, so it was showed that 30% of stone patients had significant depressive symptoms. A large retrospective study in Taiwan found a 1.75 increased risk for a diagnosis of depression in the year following a stone episode [2]. There is also a correlation between the frequency and number of stone episodes and anxiety.

As it was described early also, the effect of stone episodes on patient psychological well-being and patients with stressful life factors such as low income, mortgage problems and emotional life events were more likely to have symptomatic stone episodes. It was demonstrated that having multiple stone episodes per year or having symptoms of renal colic were significantly associated with psychological changes [2].

The urolithiasis cohort yields a higher incidence of anxiety (11.9vs 6.91 per 1000 person-years) than the non-urolithiasis cohort. The urolithiasis cohort also shows a higher incidence of depression (5.79 vs 3.95per 1000 person-years) than the non-urolithiasis cohort [5]. Regardless of the patients' baseline comorbidities, patients with urolithiasis showed a higher incidence rate ratio of anxiety and depression than those without urolithiasis. The MADRS has shown good discriminate properties between those with and without a urolithiasis diagnosis of depression among other clinical settings. That could be significant background for selection of psychological assistance for such patients especially in period of preparing for uteroscopic lithotripsy or percutaneous nephrolithotripsy. The rates of psychological distress across studies, suggesting that this issue warrants further research and clinical attention. Our findings indicate that it is prudent for urological teams to prioritize and advocate for timely treatment of patients with urolithiasis to prevent unnecessary psychological distress.

The methods of treatment of urolithiasis are not competitive and do not exclude each other, and in some cases are complementary. However, it can be said that the development and implementation of remote lithotripsy, the creation of high-quality endoscopic techniques and equipment became revolutionary events in urology at the end of the 20th century. It is thanks to these epoch-making events that minimally invasive and minimally traumatic urology was initiated, which today is developing with great success in all branches of medicine and has reached its peak associated with the creation and widespread implementation of robotics and telecommunication systems [17-20].

The minimally invasive and minimally traumatic methods of treating urolithiasis that have emerged have radically changed the mentality of an entire generation of urologists, a distinctive feature of today's essence of which is that regardless of the size and localization of the stone, as well as its "behavior", the patient must and can be saved from it. And this is right, since even small stones that are asymptomatic in the cups must be eliminated, since there is always a risk of their growth and the development of chronic pyelonephritis [21-25].

Simultaneously lifestyle of such patients should be changed, and they have to start fitness and sports (especially for professions with low physical activity), but excessive load should be avoided in untrained people, avoid alcohol consumption, avoid emotional stress. As urolithiasis is often detected in obese patients, weight loss by reducing calorie intake reduces the risk of the disease [26-28].

The organs of the genitourinary system are very vulnerable to psychosomatic phenomena, they act as a peculiar thermometer of distress. In addition to physical causes, malfunctions in the work of these organs are often associated with events in consciousness, certain types of reactions to everyday events and social conditions of life. However, these connections are often overlooked by general practitioners or not given enough attention. Different people experience similar situations in different ways and deal with them (coping strategies), some are somatized, and some are not. Thus, it is necessary to take into account the individual psychological situation and mental status of the patient, to understand the peculiarity of the symptom, why it arose at this particular time.

Conclusion.

Majority of persons who endured urolithiasis have initial mild level of depression (average MADRS about 24 points) and medium level of anxiety (average GAD-7 about 11.5 points). Psychological assistance could reduce it till 10.21±2.03 and 7.88±0.53 accordingly. The data obtained in the course of the work testify to the effectiveness of conducting a complex of psychotherapeutic interventions using cognitive training, cognitive-behavioral psychotherapy in the system of psychosocial rehabilitation. Results provide critical information on the efficacy of psychological rehabilitation for persons who expected uteroscopic lithotripsy or percutaneous nephrolithotripsy.

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