# GEORGIAN MEDICAL MEWS

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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 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 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. მიკროფოტო-სურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სუ-რათის 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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# IMPROVEMENT OF QUALITY OF LIFE FOR PATIENTS WITH ASEPTIC NECROSIS OF THE FEMORAL HEAD AND NON-PSYCHOTIC MENTAL DISORDERS

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#### Background.

Aseptic necrosis of the femoral head is a chronic polyetiological disease with a prevalence of 1.4-3.0 per 100,000 adults worldwide [1]. This progressive disease is characterized by severe pain syndrome and joint dysfunction, resulting in the patients' disability [2]. Aseptic necrosis of the femoral head (ANFH) is 2-3 times more common in younger men than in women. The problem of interaction between ANFH and mental disorders is of interest according to modern research [3-6]. It has been found that in ANFH, altered brain activity is detected in the areas associated with pain, emotion, and consciousness [7], which proves the impact of joint disease on the formation of non-psychotic mental disorders (NMD). Objective evaluation of the results of treatment of hip joint diseases should be based not only on clinical indicators, but also include subjective information from patients with the study of the quality of life [8]. Health-related quality of life (QL) is an important primary endpoint in the care of patients with chronic diseases. Healthrelated QL can be used to assess health quality, diagnose the nature, severity, and prognosis of a disease, and evaluate treatment outcomes [9].

**The purpose of the study**. To examine the quality of life in patients with ANFH and non-psychotic mental disorders.

# Materials and methods.

During this study, one hundred and thirty-seven patients diagnosed with ANFH, who received treatment at the MI "Dnipropetrovsk Regional Clinical Hospital named after I.I. Mechnikov DRC" from February 2016 to December 2018 were initially examined. The study was approved by the DSMU ethics committee, and patients gave written consent.

Patients diagnosed with ANFH at the age of 18 years were the subject of the study. The exclusion criteria were as follows: acute and/or chronic somatic and/or neurological diseases, mental disorders of the psychotic register, age under 18 years, refusal of the patient to be examined by a psychiatrist. A total of 137 patients were included in the study, 96 (70%) of whom completed the study and 41 (30%) dropped out due to refusal to continue participation in the study. Patients in the first clinical group (39.6%) included participants with up to 5 years of ANFH; those in the second (60.4%) had more than 5 years.

Patients diagnosed with ANFH and NMD were examined using the Beck Depression Inventory (BDI-II) and the Beck Anxiety Inventory (BAI) to confirm the leading syndrome. The cut-off point for depression was 21 points; for anxiety it was 14 points. Quality of life was assessed using the SF-12v2 quality of life survey. The SF-12 survey is constructed with questions taken from each of the 8 measures of the SF-36 interviewee examination. It is designed to have similar characteristics to the

SF-36 survey, but it takes much less time to fill. As a result, the SF-12 survey provides two final scores: the Mental Component Summary (MCS) and the Physical Component Summary (PCS). The average score on both subscales is 50 points with a standard deviation of 10 points.

Patients were compared on the basis of non-psychotic mental disorders associated with ANFH duration up to 5 years and ANFH duration over 5 years. To form a rational attitude to the existing disease in patients with ANGSK, taking into account the general principles of psychotherapy as the primary method of psychotherapeutic influence, we used the forms of individual rational psychotherapy. In our opinion, the advantage of this technique is the ability to achieve significant positive changes within a short time and a small number of sessions. At the inpatient stage of treatment, a course of rational psychotherapy with elements of psychoeducation was prescribed. The course of treatment consisted of 2 sessions of psychotherapy using the technique of rational behaviour-oriented therapy lasting up to 40 minutes. In individual rational psychotherapy, we used methods of clarification, persuasion, distraction, and directive techniques involving the doctor's charisma and knowledge. Patients received treatment in stage 3-4 ANFH when they needed hip arthroplasty.

The original research data were transferred to an electronic database. Statistical analysis was performed using the STATISTICA software for Windows 6.1. During statistical processing, the results did not correspond to a normal distribution. The distribution type was assessed using the Shapiro-Wilk test. In calculating statistical variables, we calculated the median (Me) and 1-3 quartiles (Q1-Q3). To estimate the probability of the difference between the median values the Mann-Whitney test was used. Statistical significance in differences between qualitative and ordinal features was determined by Pearson's chi-square test (χ2), in particular with Yates' correction for continuity, or by Fisher's exact test. Differences associated with the indicators were assessed using the Wilcoxon test. To assess the probability of the difference, the generally accepted in biomedical research level of probability (p) – p<0.05 was taken into account.

# Results and discussion.

The first clinical group consisted of 38 patients with ANFH duration up to 5 years (mean age  $45.9\pm11.3$ ), among whom men predominated (26 persons, 68.4%). The second main clinical group consisted of 58 patients with ANFH duration of more than 5 years (mean age  $54.6\pm10.2$ ), among whom men dominated (37 people, 63.8%). The demographic features of the patients are shown in Table 1.

The examined patients were diagnosed with the following syndromic variants of non-psychotic mental disorders: anxiety-

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Table 1. General characteristics of groups.

Indicator	MG1 Me (Q1-Q3) / n	9/0	<b>MG2</b> Me (Q1-Q3) / n	%	
Age	41.5 (37;55)		55.5 (50;61)		
Sex					
Male	26	68.4	37	63.8	
Female	12	31.6	12	36.2	
Marital status					
Married	29	76.3	36	62.1	
Single	7	18.4	2	3.4	
Divorced / widowed	2	5.3	20	34.5	
Education		·	·	·	
High school	7	18.4	6	10.3	
Technical school	18	47.4	23	39.7	
Higher	13	34.2	29	50.0	
Disability					
Yes	37	81.6	46	79.3	
No	7	18.4	12	20.7	

**Table 2.** Non-psychotic mental disorders in patients with ANFH.

Leading syndrome	MG1 (n)	%	MG2 (n)	%
anxiety-phobic	14	36.8	3	5.2
anxiety-depressive	7	18.4	22	38.0
depressive-	2	7.9	13	22.4
hypochondriac	3	1.9	15	22.4
astheno-depressive	8	21.1	10	17.2
astheno-apathetic syndrome	6	15.8	10	17.2

**Table 3.** Quality of life indicators in the surveyed groups before treatment (M (SD)).

Indicators	MG1	MG2	p
PCS	42.72 (8.16)	38.60 (6.86)	0,001
MCS	43.46(9.00)	36.55(10.34)	0,001

phobic -17.7% (17/96), anxiety-depressive -30.2% (29/96), depressive-hypochondriac -16.7% (16/96), astheno-depressive -18.7% (18/96) and astheno-apathetic syndrome -16.7% (16/96). The characteristics of mental disorders in groups are presented in Table 2.

The study of quality-of-life indicators revealed that the examined patients have a lower quality of life compared to the average population indicator (50±10 points) [10]. While a lower index of the physical component of quality of life is predicted on the basis of the existing somatic symptoms, a decrease in the mental component of quality of life is an indicator of the influence of the NMD (Table 3). The obtained data indicate that quality of life deteriorates with increasing duration of ANFH, with the mental component more so than the physical one. This reflects the impact of a chronic illness on the mental life of an individual.

The obtained data are consistent with the results of Hampton et al. [4], who found that patients with ANFH experience a number of psychological problems that ultimately reduce their quality of life. Similar results were found in the study by Vardhan et al. who found that in patients with ANHF with unilateral lesions the mean SF-12 scores were 49.5±6.9 (PCS) and 47.4±11.5 (MCS), and with bilateral lesions – 46.5±7 and 39.6±12.5, respectively [11]. According to preliminary studies, it was found that the

mental component of the quality of life in patients with ANFH is also reduced and ranges from 38.9 to 45.3 [12,13], but these results were obtained using a similar but different measure, the SF-36. NMD even without existing somatic pathology have a negative impact on the quality of life [14]. Therefore, the combination of a severe somatic disease, usually manifested at working age and accompanied by a pronounced pain syndrome and a significant decrease in mobility (ability to move) and NMD has a cumulative impact on quality-of-life indicators [15]. This necessitates early intervention in NMD [16], since with increasing of ANFH duration professional functioning, self-care and independent functioning, ability and motivation for interpersonal communication deteriorate.

According to the data of the analysis of the dynamics of the quality-of-life indicators in patients with ANFH under the influence of the carried out NMD correction, the following features were revealed (Table 4). In the first main group, the physical component of quality of life improved by 3.25 points (p<0.05), the mental component of quality of life increased by 6.4 points (p<0.05). In the second main group, the physical component of quality of life increased by 4.55 points (p<0.05), the mental component of quality of life changed positively by 10.55 points (p<0.05).

Table 4. Dynamics of quality-of-life indicators in the course of treatment depending on the duration (M(SD)).

	Indicators	Before treatment		After treatment		n*
		M (SD)	Q1-Q3	M (SD)	Q1-Q3	p.
MC1	MCS	43.46 (9.0)	36,94-46,47	49.89 (5.6)	45,67-53,28	0.002
MG1	PCS	42.72 (8.2)	40,37-48,8	45.97 (5.6)	42,71-50,19	0.015
MG2	MCS	36.55 (10.3)	30,1-41,9	47.10 (6.1)	43,88-50,62	< 0.001
	PCS	38.60 (6.9)	33,9-44,22	43.15 (5.0)	40,83-46,17	< 0.001

Note: \* - Reliable difference between patients until that time following the Wilcoxon criterion.

Table 5. The dynamics of quality-of-life indicators during treatment depending on the treatment method.

	Indicators	Before treat	Before treatment		After treatment	
	indicators	Me	Q1-Q3	Me	Q1-Q3	p*
GP1	MCS	40,16	35,62-46,71	49,07	46,2-53,63	<0.001
(n=53)	PCS	41,80	34,28-47,06	44,08	41,21-48,77	<0.001
GP2	MCS	35,86	31,27-41,89	45,16	41,13-50,71	<0.001
(n=43)	PCS	41,36	36,02-45,49	44,78	41,14-47,15	<0.001

Note: \* - Reliable difference between patients until that time following the Wilcoxon criterion.

Table 6. Dynamics of indicators of the mental component of quality of life in the course of treatment depending on the leading syndrome.

Cryn dwam a	MG1		MG2	MG2	
Syndrome	Before	After	Before	After	
anxiety-phobic	39.2±6.3	47.6±3.4*	45.3±4.2	46.8±1.1	
anxiety-depressive	44.8±4.6	50.4±5.1	37.3±8.9+	47.3±6.0*	
depressive-hypochondriac	48.4±15.8	52.2±8.2	29.9±10.8+	44.9±5.8*	
astheno-depressive	39.3±6.1	47.3±3.9*	39.7±3.0	47.9±5.3*	
astheno-apathetic syndrome	54.8±8.3	56.8±6.2	37.8±14.8	48.7±8.4*	

Note: \* - reliable difference between patients before and after treatment (p<0.05 by Wilcoxon test)

The dynamics of the quality of life depending on the chosen method of treatment are shown in table 5. A reliable increase in indicators of the physical and mental components of the quality of life before and after treatment was established, regardless of the selected method of treatment of NMD. The obtained data indicate that when combining pharmacotherapy and psychotherapeutic interventions in the provision of care to patients with NMD with ANFH, the mental component of quality of life improves more in comparison with pharmacotherapy alone.

When analyzing the dynamics of indicators of the mental component of the quality of life (Table 6) in the context of the available leading psychopathological syndrome, it should be noted that increasing the duration of the disease negatively affects the quality of life, and even persons with the leading astheno-apathetic syndrome, for whom a decrease in MCS is not typical with duration of ANFH up to 5 years, have corresponding problems (decrease is 31%). When analyzing MCS dynamics, it should be noted that not all patients were able to achieve average-population levels of QL; for example, with the duration of ANFH up to 5 years, patients with leading anxiety-phobic and astheno-depressive syndromes did not reach a score of 50±10. The situation is different in patients with more than 5 years duration of ANGBC disease. None of the variants of the leading psychopathological syndromes reached the average population level after treatment.

Treatment of presenting psychiatric symptoms in patients

with pathologies of large joint is recommended by the National Institute for Health and Care Excellence (NICE) [17].

In general, positive dynamics of the characteristics of the quality of life after the correction of NMD was noted in both main groups. In this study, we confirm the findings of Mariconda et al. [13]: they found that patients after treatment of hip joint diseases have a worse than normal quality of life, but they still have a better functional level and work capacity than untreated patients.

#### Conclusions.

Patients with ANFH and NMD have a significant decrease in quality of life on all indicators. Longer duration of ANFH disease significantly impaired the mental component of quality of life. In the presence of anxious-depressive or depressive-hypochondriac syndromes, it is possible to restore the mental component of QL to a normal level. The developed intervention measures reliably improve the mental component of QL when ANFH duration is more than 5 years.

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<sup>+ -</sup> reliable difference between patients with the same syndromes depending on the duration of the disease (p<0.05 by Mann-Whitney test)

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