

ABSTRACT

**dissertation of doctoral student Sagtaganov Zhaksybek Ilesbekovich on the topic:
"Modern methods of rehabilitation of patients with rheumatoid arthritis", submitted for
the degree of Doctor of Philosophy (PhD) in the educational program 8D10141 "Medicine"**

Relevance of the study

Rheumatoid arthritis significantly affects the quality of life of patients, causing chronic pain, loss of mobility and disability. Modern rehabilitation methods play a key role in maintaining and restoring the health of such patients. The use of additional and alternative medicine methods, including phytotherapy, physiotherapy and specialized rehabilitation programs, can significantly improve the condition of patients. This problem is particularly relevant in the context of the treatment of concomitant diseases, such as cardiovascular pathologies, which often accompany rheumatoid arthritis. Developing and implementing comprehensive rehabilitation programs are essential to improve treatment prognoses.

The purpose of the study

To develop scientifically grounded approaches to the application of complementary and alternative medicine methods in the treatment and rehabilitation of patients with rheumatoid arthritis, enhancing the effectiveness of comprehensive therapy, improving quality of life, and facilitating patient adaptation.

Research objectives

1. Conduct a comprehensive analysis of current complementary and alternative medicine methods (yoga, meditation, phytotherapy, traditional Eastern medicine) and their application in treating patients with rheumatoid arthritis.
2. Evaluate the impact of complementary and alternative medicine methods on key health parameters, including pain syndrome intensity, joint mobility, functional capabilities, and the psycho-emotional state of patients.
3. Study the effectiveness of physical medicine and rehabilitation methods in patients with comorbidities such as rheumatoid arthritis and cardiovascular diseases, focusing on developing individualized treatment programs.
4. Assess the long-term outcomes of the developed program, including its impact on patient adaptation to daily life, complication prevention, and disease prognosis improvement.

The object of the study

Patients with rheumatoid arthritis undergoing rehabilitation using complementary and alternative medicine methods.

The subject of the study

Comprehensive rehabilitation and treatment programs incorporating yoga, meditation, phytotherapy, and physiotherapeutic approaches to optimize treatment and improve the quality of life for patients with rheumatoid arthritis.

The main provisions submitted for protection

1. The inclusion of complementary and alternative medicine methods (yoga, meditation, phytotherapy) in comprehensive therapy significantly reduces pain syndrome intensity, improves joint mobility, and enhances overall functional activity in patients.
2. Integrating alternative methods into medical practice reduces reliance on pharmacological drugs, lowering the risk of side effects and increasing patients' long-term adherence to treatment.
3. The rehabilitation program incorporating yoga and Eastern medicine methods demonstrates proven efficacy in improving patients' psycho-emotional state, enhancing quality of life, and accelerating their social adaptation.
4. Individually tailored rehabilitation programs enable consideration of the specific course of rheumatoid arthritis in patients with comorbid cardiovascular diseases, significantly broadening the range of available therapeutic measures.

Scientific Novelty of the Study

1. For the first time, the effects of yoga, meditation, and phytotherapy on patients with rheumatoid arthritis have been systematically analyzed and comprehensively evaluated.

2. An innovative rehabilitation program integrating alternative medicine methods and physical rehabilitation has been developed and tested, demonstrating efficacy in reducing pain syndrome and enhancing functional capabilities.
3. The combined application of additional treatment methods and traditional approaches, especially in comorbid conditions (e.g., cardiovascular diseases), has been studied and evaluated.
4. Practical recommendations for incorporating complementary and alternative medicine methods into rehabilitation programs for patients with rheumatoid arthritis have been prepared.

Practical Significance of the Study

The study results can be utilized to optimize existing rheumatoid arthritis treatment programs, develop rehabilitation standards, and enhance the effectiveness of medical care.

Results

The results of the study are presented in the form of a series of articles:

1. Evaluation of complementary and alternative medicine methods in the treatment of ankylosing spondylitis, rheumatoid arthritis and fibromyalgia syndrome.

Some patients with rheumatological diseases may require individual treatment, including rehabilitation with prosthetic contractures, correction of respiratory and cardiovascular functions, as well as gait restoration. In addition, complementary and alternative medicine methods used under the supervision of specialists from physical medicine and rehabilitation clinics may be useful to such patients. This highlights the need for close communication and collaboration between rheumatologists and rehabilitation specialists.

2. The effectiveness of yoga as a form of exercise in the management of rheumatic diseases.

Although this review presents some benefits in reducing the activity of diseases and complaints from the musculoskeletal system, improving psychosocial well-being, improving disability and quality of life in rheumatic diseases, data on the effectiveness of yoga remain contradictory. In particular, in the treatment of some rheumatic diseases, the lack of articles with high methodological quality and large samples attracts attention. However, in the near future, the popularity of yoga is likely to grow steadily. Given its high level of safety, yoga is likely to find its place among non-drug treatments for rheumatic diseases.

3. Yoga as a complementary therapy for rheumatoid arthritis: a casebased review.

Eight out of ten patients who participated in the study were women and two men, whose ages ranged from 41 to 69 years, and the average age was 52.6 years. The duration of the disease ranges from 24 to 204 months. All patients received regular basic therapy and were under constant supervision of a rheumatologist.

The patients followed a three-month yoga program, attending it two to three times a week, and 70% of them practiced three times a week. The duration of the session ranged from 30 minutes (n = 2) to an hour (n = 3) and averaged 45 minutes. Yoga poses and techniques are unified and consistent in all sessions.

In 70% of patients, morning stupor lasted more than 100 minutes before yoga. After yoga, morning tetanus decreased by 31 minutes (from 132 to 101 minutes), and in half of the patients this indicator was below 100 minutes. According to the Visual Analog Pain Level Scale (VAS), all patients had 80 mm before yoga and an average of 41.5 mm after yoga.

4. Managing rheumatoid arthritis and cardiovascular disease: the role of physical medicine and rehabilitation.

Among 350 patients with rheumatoid arthritis, 143 patients with concomitant cardiovascular diseases were selected, most of whom were women (75.5%), and the average age was 58 years. Arterial hypertension was detected by the most frequent cardiovascular pathologist, 51% of which had grade 3 hypertension. Among the patients, 60.1% received antihypertensive therapy, and 77.6% switched to a low-carb and cholesterol diet.

Only 40.6% of patients participated in physical rehabilitation, of which the painlevel (VAS) for those who practiced yoga was significantly lower (30.00), and the duration of morning tetanus was 70 minutes (for those who used other methods-90 minutes). Also, in patients of the yoga group, the DAS-28 index was 5.67, in those who used other rehabilitation methods, this indicator reached 6.34. Patients suffering from physiotherapy also had low cholesterol (4.27 mmol/L), which indicates a positive effect of physical exercise.

5. Complex rehabilitation of patients with rheumatoid.

In this study, the effectiveness of a comprehensive rehabilitation program, including moderate-intensity walking, yoga, and diet therapy, was described based on two clinical cases. As a result of rehabilitation, the condition of patients has significantly improved: the number of painful and swollen joints has decreased, the pain level has decreased, and the time of morning cramps has decreased. In addition, the patient lost an average of 4.5 kg, and his body index decreased by 1.65 kg/m².

In the first patient after the rehabilitation course, the number of painful joints decreased from 22 to 8, the number of swollen joints decreased from 16 to 4. The level of pain in the VAS decreased from 80 mm to 50 mm, and the time of morning cramps decreased by 70 minutes. In the second patient, these indicators decreased from 13 to 2, from 7 to 1, respectively, and the pain level decreased from 80 mm to 40 mm. These data indicate the effectiveness of comprehensive rehabilitation in improving the functionality and quality of life of patients with rheumatoid arthritis.

The theoretical significance of the study:

The study's theoretical significance lies in systematically analysing existing complementary and alternative medicine methods in rehabilitating patients with rheumatoid arthritis (RA). This made it possible not only to summarize the accumulated scientific knowledge but also to identify gaps in their application, justify the need for an integrated approach to rehabilitation and determine the optimal ways to integrate non-drug methods into standard treatment protocols for RA. The developed methodological approaches deepen the understanding of the relationship between the physical, psychological and social aspects of the patient's condition, which contributes to a deeper understanding of the multidisciplinary nature of rehabilitation of RA patients.

The practical significance of the study:

The study's practical significance lies in developing and implementing a comprehensive rehabilitation program for patients with RA, which can be used in the clinical practice of medical institutions. The program includes methods aimed at reducing the severity of the symptoms of the disease, improving the psycho-emotional state, as well as reducing the risk of disability. The program's implementation improves patients' quality of life by improving their physical condition, increasing social activity and adaptation. Implementing the proposed technique provides the possibility of its adaptation to the individual needs of patients, taking into account the stage of the disease, concomitant pathologies and the level of physical fitness.

Scientific novelty of the research

1. The necessity of a multi-level approach to the rehabilitation of RA patients based on the integration of non-drug methods (yoga, diet therapy, physiotherapy and psychological support) with traditional treatment approaches has been determined.
2. For the first time, the effect of complex rehabilitation measures on the condition of patients with RA with concomitant diseases has been studied, which expands the possibilities of a personalized approach to treatment.
3. A comprehensive method of rehabilitation of rheumatological patients has been developed and tested, including:
 - Physical activity, taking into account the characteristics of the condition of the joints and the degree of damage;
 - Yoga programs aimed at improving flexibility, reducing stress levels and improving mental and emotional state;
 - Diet therapy that considers the principles of anti-inflammatory nutrition to reduce systemic inflammation.
4. New data have been obtained on the effect of these methods on reducing the activity of systemic inflammation, improving the functional state of joints, increasing exercise tolerance and improving patients' quality of life.

Personal contribution of a doctoral student

The doctoral student made a significant contribution at all stages of the research.

1. He analyzed the current state of the issue and systematized data on existing methods of rehabilitation for patients with RA.

2. He developed a methodological basis for the study, including a methodology for evaluating the effectiveness of rehabilitation measures.
3. He formed and implemented a comprehensive rehabilitation program, tested it on a sample of patients with RA, and collected and processed the results.
4. He compared the data obtained, which made it possible to substantiate the advantages of an integrated approach to rehabilitation.
5. He published the research results in scientific journals, including three articles in which he was the first author, and presented key findings at international scientific conferences.

Conclusions

1. A review of world literature data has shown that complementary and alternative medicine methods effectively rehabilitate patients with rheumatoid arthritis.
2. A review of specific cases of yoga as an additional therapy for rheumatoid arthritis showed a decrease in morning joint spasms by 31%, Visual Analogue Scale Pain Index (VAS) by 48.1% and systolic blood pressure by 11.1%.
3. The proposed method for treating RA patients with cardiovascular diseases showed a low level of pain (median VAS decreased by 24.9%), morning joint spasms decreased (median decreased by 22.1%), and a low DAS-28 disease activity index was revealed (median decreased by 10.5%).
4. A comprehensive rehabilitation program for patients with rheumatoid arthritis has been developed and implemented.

Approbation of the research results

The main results of the doctoral student's work were presented at the 10th International Scientific Conference of Young Scientists and Students, "Prospects for the Development of Biology, Medicine and Pharmacy", organized by JSC South Kazakhstan Medical Academy (December 7-8, 2023, Shymkent). They were presented as part of a scientific and practical conference dedicated to the 85th anniversary of the medical University of OSU "Abuali ibn Sino" "New horizons in medical science, education and practice" (November 1, 2024, Dushanbe).

Publications

According to the study's results, 5 articles (3 of which are the first authors) have been published in 2 quartile editions of Journal Citation Reports.

1. Assessment of complementary and alternative medicine methods in the management of ankylosing spondylitis, rheumatoid arthritis, and fibromyalgia syndrome (Rheumatology International", Germany; Q2 Journal Citation Reports (Clarivate Analytics)) co-author)
2. The effectiveness of yoga as a form of exercise in the management of rheumatic diseases (Rheumatology International", Germany; Q2 Journal Citation Reports (Clarivate Analytics)) co-author)
3. Yoga as a complementary therapy for rheumatoid arthritis: a casebased review (Rheumatology International", Germany; Q2 Journal Citation Reports (Clarivate Analytics)) first author)
4. Managing rheumatoid arthritis and cardiovascular disease: the role of physical medicine and rehabilitation (Rheumatology International", Germany; Q2 Journal Citation Reports (Clarivate Analytics)) first author)
5. Complex rehabilitation of patients with rheumatoid arthritis (Rheumatology International", Germany; Q2 Journal Citation Reports (Clarivate Analytics)) first author)