



Diseases of the Musculoskeletal System and Rheumatic Diseases: Prevention and Rehabilitation in Modern Conditions

**Ragif Kalimovich Mutalimov^{1*}, Karina Valeryevna Kravtsova¹,
Amina Magometovna Bairamkulova², Sherifat Magometovna Bairamkulova²,
Alena Olegovna Voynova³ and Vitaly V. Goncharov⁴**

¹*Ivanovo State Medical Academy, Ivanovo Region, Ivanovo, Sheremetyevo Avenue, 8,
153012, Russia.*

²*Sklifosovsky Department of Clinical Medicine, The First I. M. Sechenov Moscow State Medical
University, 119435, Bolshaya Pirogovskaya Str., House 2, Building 4, Russia.*

³*Kemerovo State Medical University, 650056, 22 A, Vorishilova St., Kemerovo,
Kemerovo Oblast - Kuzbass, Russia.*

⁴*Kuban State Agrarian University (Named after I. T. Trubilin), Russia.*

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The article examines approaches to the prevention of diseases of the musculoskeletal system and rheumatic diseases, as well as to the rehabilitation of such patients. It is this type of disease that has a negative impact on the quality of life of most people, since it not only makes it difficult for them to move in space, but also worsens the general state of health due to pain, which may manifest to a greater or lesser extent.

Treatment of diseases of the musculoskeletal system is a rather long-term process, for this reason, the prevention of such diseases seems very relevant, since it not only allows the patient to avoid prolonged pain, but also reduces the financial burden in the field of insurance medicine, since the

need for expensive medical and physiotherapy treatment for such patients is eliminated. Rehabilitation of patients with this diagnosis also makes it possible to reduce the time to restore their health and return to a full life.

Accordingly, the tasks set in the work meet the requirements of today and will contribute to improving the effectiveness of preventive measures for patients suffering from diseases of the musculoskeletal system.

Keywords: Musculoskeletal system; diseases; prevention; treatment.

1. INTRODUCTION

In the modern world, many people are susceptible to the development of various diseases of the musculoskeletal system. In particular, in most patients, the articular apparatus is susceptible to the disease, resulting in various arthritis (psoriasis, rheumatoid, etc.). Usually, such diseases become chronic and significantly worsen the quality of life of people who suffer from them [1].

Treatment of patients suffering from diseases of the musculoskeletal system is quite long and costly, which increases the cost of treating such a patient if it is carried out at the expense of state medical programs, or increases the financial burden of the patient himself if he is treated in a private health care facility.

In addition, doctors claim that patients with diseases of the musculoskeletal system are largely susceptible to various diseases that have a concomitant nature. The inability to fully move can lead to the development of cardiovascular diseases, since the lack of regular physical activity weakens the heart muscle and reduces its performance [2]. The consequence of this situation is an increase in the risk of death from cardiovascular diseases.

In addition to this group of diseases, patients suffering from diseases of the musculoskeletal system may experience the development of other ailments, such as muscle atrophy, the rapid development of various infectious diseases due to depressed immune system function, etc.

2. MATERIALS AND METHODS

In the process of writing the work, the necessary array of scientific literature was investigated within the framework of the research topic, as well as a comparative and analytical research methods were applied.

3. RESULTS

As already noted above, diseases of the musculoskeletal system have become quite widespread in almost all countries. Patients suffering from such diseases usually experience pain of varying intensity, also such diseases lead to disability, and this can cause very serious consequences for the patient, since such conditions entail a decrease in working capacity, as well as a reduction in the opportunity to participate in the social life in full swing.

Most often, such diseases are benign in nature, however, there are cases when certain symptoms indicated the development of malignant neoplasms of the spine, spinal infection, as well as axial spondylitis. Accordingly, earlier detection of such diseases contributes to their effective treatment.

Along with diseases of the musculoskeletal system, there are also rheumatic diseases, which include inflammation of the supporting or connective structures of the body, affecting mainly joints, tendons, ligaments, bones and muscles. Among such diseases, rheumatoid arthritis, osteoarthritis, etc. are quite common. Patients with this diagnosis should receive special treatment, but the cost of such treatment is quite high.

The occurrence and development of such diseases occurs under the influence of a number of risk factors. These factors are shown in Table 1.

An important role in the treatment of this type of disease is played by proper diagnosis and timely treatment. However, it is impossible not to note the peculiarities of the prevention of such diseases, as well as methods of rehabilitation of patients in remission, all this also contributes to improving the quality of life of patients with this diagnosis, as well as reducing the possibility of their disability [3].

Table 1. Risk factors for developing of rheumatic musculoskeletal diseases

Type of disease	Possible risk factors	Symptoms of the disease
Osteoarthritis	Age, traumatic conditions, excess weight, genetic predisposition	Pain and stiffness, painful joints, clicks and cracks around the joints, slight swelling
Rheumatoid arthritis	Smoking, hard physical labor, genetic predisposition, changes in the female hormonal environment, diet.	Pain and swelling, joint stiffness, fatigue, rheumatoid nodules
Gout	Alcohol, overweight, hypertension, improper diet, early menopause	Chills, fever, general malaise, solid deposits of urate crystals under the skin, severe sudden pain, swollen joints and fever in the in the area of joints
Juvenile idiopathic disease	Young age, female sex, antinuclear antibodies, smoking of mothers during pregnancy	Swollen, stiff and painful joints, eye inflammation, fatigue, fever and rash, enlarged lymph nodes, decreased appetite.
Rheumocarditis	Low standard of living, limited access to medical care, streptococcal infection	Fever, cough, palpitations, nodules under the skin, weakness, shortness of breath, extremely painful joints

In this regard, we consider it necessary to focus on the analysis of various types of prevention of diseases of the group under consideration, as well as approaches to the organization of rehabilitation of such patients.

4. DISCUSSION

Prevention of any disease is the "golden" direction of professional activity of any medical worker. The essence of this work lies in the need to prevent the development of diseases, as well as to minimize the impact of negative factors in

the event that the disease has already developed.

Let's consider these types of prevention in detail.

Primary prevention of this type of disease is a process aimed at preventing the development of the disease and reducing the risk factors that contribute to its development. In the case of the types of disease under consideration, this is the use of alcoholic beverages, the presence of excess weight, smoking, etc.

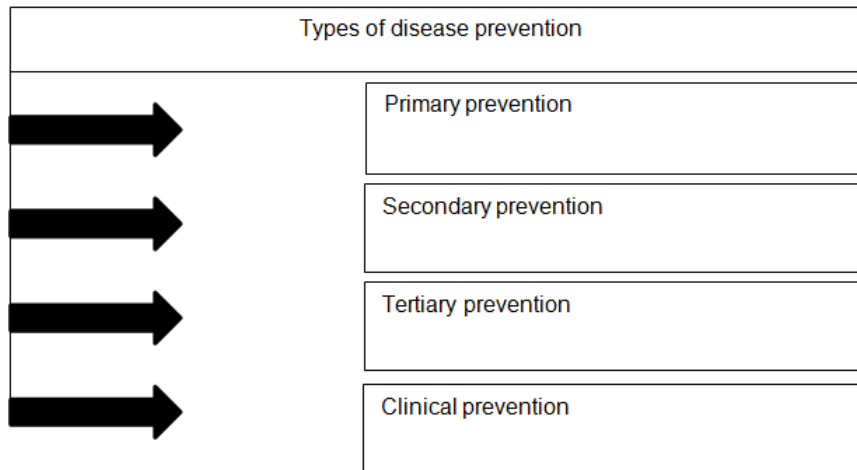


Fig. 1. Experts point out that there are several types of disease prevention

Smoking and the consumption of alcoholic beverages are particularly important factors that need to be taken into account. It is known that smoking has a sharply negative effect on the cardiovascular system, lung function, etc. All these factors are directly or indirectly related to the development of diseases of the musculoskeletal system. And rheumatic diseases.

Alcohol has a similar negative effect on the human body. Intoxication of the body, a decrease in the activity of the urinary system, as well as the efficiency of the liver slows down the processes of removing toxins from the body, increases the load of the cardiovascular system, which also negatively affects the condition of muscle and bone tissue and causes the development of diseases of the musculoskeletal system and rheumatic diseases.

Primary prevention is the most important link in the work of medical workers and educational organizations in the fight against diseases of the musculoskeletal system and rheumatic diseases. For this reason, the platforms for organizing such preventive work should be not only personal conversations between the doctor and the patient, but also lectures in schools, organizations and other institutions.

Secondary prevention provides for the possibility of reducing the risk factors for the development of diseases of the musculoskeletal system and rheumatic diseases at the earliest stages of their development. These specialists include measures that promote early diagnosis, as well as the beginning of treatment of the disease. So, as part of secondary prevention, various lung diseases are detected, etc. Usually, such measures within the framework of secondary prevention are carried out by specialists of the primary healthcare sector - polyclinics, outpatient clinics, etc. [4].

As for the group of diseases under consideration, the recognition of symptoms of such diseases earlier should be highlighted here as a secondary prevention. It is known that there is an indicator called "12 golden weeks", which allows you to recognize the appearance of the type of disease in question at the earliest stages and makes it possible to start effective treatment. In this case, the effectiveness of treatment will be quite high, and the quality of life of the patient will remain at

a fairly high level, since treatment will be initiated at the earliest stages of the development of the disease.

In addition, secondary prevention should include the fight against smoking in patients who have primary symptoms of diseases of the musculoskeletal system and rheumatic diseases. Doctors need to convey to the patient's consciousness the idea that smoking acts as a provoking factor in the development of this group of diseases. If the patient continues to smoke, the ailment he has may worsen, and as a result, the disease will become chronic with a possible transition to disability in the future. Unfortunately, patients do not always appreciate the need to give up smoking, however, as part of secondary prevention, this is a very important factor contributing to the speedy recovery of the patient.

If we talk about tertiary prevention, it usually acts as a natural part of rehabilitation. Among the measures of tertiary prevention, it is necessary to name the following:

- Prevention of (new) fractures in patients with osteoporosis, instructions;
- Compliance with hygiene rules;
- Encouraging the necessary prescribed physical activity in patients with diseases of the musculoskeletal system and rheumatic diseases, since such patients are at increased risk of cardiovascular diseases, and the growing level of inactivity can only aggravate the overall picture of the patient's health.

Rehabilitation of the musculoskeletal system, including physiotherapy, should include a broader biopsychosocial understanding of the conditions of the musculoskeletal system and the provision of high-quality care to people with persistent pain conditions, the key feature of which is a patient-oriented approach [5].

Self-monitoring support can be defined as an intervention aimed at equipping patients with the skills to actively participate and take responsibility in managing their permanent condition for optimal functioning. In self-government, important skills are goal setting, joint decision-making, problem solving, pain and emotion management, action planning and partnership formation.

Physiotherapists are ideally suited to support people in their wish for self-management, and ideally these topics should be integrated into the support provided by physiotherapists or other clinicians working with the musculoskeletal system.

Since the characteristics of patients in all conditions of the musculoskeletal system are largely the same, it is very important to focus on general self-management skills. This approach corresponds to a model consisting of building self-efficacy, training in exercise and a healthy lifestyle, education about biopsychosocial factors affecting musculoskeletal diseases, and a strong clinical alliance. Moreover, the self-management approach can also be useful for people with acute or subacute conditions. Thus, the self-management method is recommended as a general approach in modern physiotherapy for people with diseases of the musculoskeletal system.

It is also necessary to point out the need for clinical prevention: this type of prevention is aimed at preventing relapses of the disease. In this regard, the impact of prevention on the general health of the patient suffering from the group of diseases under consideration is also quite noticeable.

Telemedicine and remote support of patients by professional physicians are also becoming increasingly important in modern conditions associated with a decrease in the ability of patients to receive timely medical care due to the development of coronavirus infection [6].

These measures of clinical prevention with the use of digital technologies in the modern world have become an indispensable factor in providing assistance to the category of patients who are physically disabled, but who require regular medical consultations due to the fact that without them their quality of life will be reduced and their health will deteriorate.

In this context, physicians, as part of the clinical prevention of diseases of the musculoskeletal system and rheumatic diseases, carry out a virtual visit to the patient, connecting with him through Internet technologies and organizing consultations and prescribing a particular type of treatment [7].

In addition, these types of communication also allow for consultation with specialist patients who are far from the patient, but are able to provide

him with all possible assistance in treatment, rehabilitation and maintenance of the current state of remission. This is a very valuable moment both in a pandemic and in normal conditions, because it allows you to seek help from experienced specialists who have the opportunity to expand the scope of medical care or clinical prevention for patients suffering from diseases of the musculoskeletal system or rheumatic diseases [8].

5. CONCLUSION

Thus, it can be concluded that diseases of the musculoskeletal system increase health care costs for the individual patient and for society. Treatment of diseases of the musculoskeletal system is a rather long-term process, for this reason, the prevention of such diseases seems very relevant, since it not only allows the patient to avoid prolonged pain, but also reduces the financial burden in the field of insurance medicine, since the need for expensive medical and physiotherapy treatment for such patients is eliminated. Rehabilitation of patients with this diagnosis also makes it possible to reduce the time to restore their health and return to a full life.

Accordingly, the tasks set in the work meet the requirements of today and will contribute to improving the effectiveness of preventive measures for patients suffering from diseases of the musculoskeletal system.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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