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THE EFFECT OF PHYSICAL ACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRTIS

D. Lambrev, B. Enev , D. Georgieva, I. Stoyanova*

Department of Health Care, Medical College, Trakia University, Stara Zagora, Bulgaria

ABSTRACT
Rheumatoid arthritis (RA) is a systemic autoimmune disease whose main feature is persistent inflammation of the joints, leading to joint damage and loss of function. It is the most common inflammatory joint disease, affecting 1-2% of the population worldwide, with women being affected two to three times more often than men. The disease can cause joint pain, stiffness, swelling, and reduced joint flexibility. RA often affects the small joints of the wrists, hands, and feet, but can also affect larger joints and other organs. In addition to the joint features of the disease, RA is associated with increased morbidity and mortality from cardiovascular disease. As well as detrimental changes in body composition, thus favoring increased fat deposition and reduced muscle mass. These in turn further impair function and the ability to perform daily tasks. It is therefore not surprising that almost a third of RA patients become unemployed as a result of their condition and have a 10-fold higher rate of work disability compared to the general population. Inflammatory arthritis and osteoarthritis are the leading causes of pain and disability worldwide. RA is responsible for a significant reduction in physical activity. RA becomes a vicious cycle in terms of health and disease progression. Thus, it is clear that promoting physical activity is an important and essential part of the overall treatment of RA. Increasing physical activity is an intervention that can improve both disease-related and systemic manifestations in rheumatoid arthritis, while at the same time reducing the overall costs associated with the disease. The aim of this study was to investigate the role of activity in patients with rheumatoid arthritis, the impact of exercise on the main symptoms such as pain, limited mobility and fatigue, on muscle strength and overall quality of life.

Keywords: rheumatoid arthritis, physical activity

INTRODUCTION

Rheumatoid arthritis (RA) is a chronic inflammatory autoimmune disease that causes progressive damage to the musculoskeletal system and is associated with an increased risk of cardiovascular disease (1).

It affects approximately 1% of the adult population and is most common in people aged 40-60 years (2).

Rheumatoid arthritis is characterized by involvement of the extremities. Joint and periarticular manifestations include joint swelling and tenderness, with morning stiffness and severe movement impairment in the affected joints (3).

***Correspondence to:** *Ivelina Stoyanova*,
Department of Health Care, Trakia University, Medical College, Bulgaria,
6000 Stara Zagora, Bulgaria, Email: ivelina.stoyanova@trakia-uni.bg

RA is accompanied by systemic manifestations, most notably an increased risk of cardiovascular disease (CVD), as well as detrimental changes in body composition. These in turn further impair function and the ability to perform daily activities (4). Clinical manifestations vary depending on the joints involved and the stage of the disease. A large proportion of patients suffer from accelerated muscle wasting, also known as “rheumatoid cachexia”, which contributes to loss of physical function and quality of life. Almost one third of patients with RA become unemployed as a result of their condition and have a 10-fold higher rate of work disability compared to the general population.

Physical activity plays an important role in the treatment of the disease, as it is essential for maintaining muscle strength and endurance, range of motion, and the ability to perform activities of daily living (5).

The recommendation for the general population is 150 minutes per week of moderate-intensity aerobic activity or 75 minutes per week of vigorous-intensity aerobic exercise (6).

The French National Health Authority (HAS) has recommended moderate to vigorous intensity aerobic exercise (60% to 80% of maximum heart rate) combined with a self-exercise program for all patients with RA (7). Physical activity is a stimulus that leads to significant functional and structural adaptations in various physiological systems, which in turn can have a beneficial effect on the overall symptomatology of RA (8).

OBJECTIVE

The aim of this study was to investigate the role of activity in patients with rheumatoid arthritis, the impact of exercise on core symptoms such as pain, limited mobility and fatigue, on muscle strength and overall quality of life.

MATERIALS AND METHODS

We reviewed the current medical literature focused on physical activity in patients with rheumatoid arthritis using the following databases: Google Scholar, Pubmed, ResearchGate.

DISCUSSION

Rheumatoid arthritis is one of the most common inflammatory diseases of the joints, the incidence of which is 0.5 - 7% of the adult population, which is increasing every year. The relevance of rheumatoid arthritis is due to its progressive course and the severity of musculoskeletal lesions (9).

The treatment of patients with RA requires an interdisciplinary approach, as patients have to deal with a multitude of problems - from their participation in professional life to psychosocial problems (10).

Disability can occur early in the disease and becomes a lifelong problem in 27% of patients with rheumatoid arthritis within the first three years of the onset of the disease. This leads to significant disability, reduced quality of life and high economic costs (11). Low physical activity is an important and reversible feature of rheumatoid arthritis. It has been shown that patients with rheumatoid arthritis do less exercise than healthy people. The extreme physical inactivity of patients with rheumatoid arthritis becomes a vicious circle in terms of health and disease progression. Promoting physical activity is an important and essential part of the overall treatment of rheumatoid arthritis (12).

The World Health Organization defines physical activity as, “any bodily movement produced by skeletal muscles that requires energy expenditure” (WHO). It is a complex behavior that includes both sports and non-sports activities. Physical activity generally encompasses exercise, sports and physical activities performed as part of daily life, occupation, leisure and active transportation.

Most authors recommend the use of physical exercises that increase the amplitude of movements and muscle strength, as well as aerobic exercises, taking into account the individual capabilities of the patient and ensuring adequate rest.

Nogas claims that carefully selected physical exercises and other means of physical therapy contribute to stopping the further progression of the disease, restoring the functions of the affected joints, and improving the physical and mental condition and quality of life of patients (13).

The volume of physical activity during therapeutic exercises depends on many different factors, but they should always correspond to physical capabilities, age, health status and pathological process.

- Impact on rheumatoid cachexia.

High-intensity resistance exercise has been shown to positively affect cachexia in patients with RA and, as a consequence of this muscle mass recovery, significantly improve physical function and reduce disability (14).

- Impact on cardiovascular risk

Accelerated atherosclerosis is a feature of RA and the earliest cardiovascular abnormality that precedes the onset of atherosclerosis is endothelial dysfunction. Physical activity influences cardiovascular risk and in particular the development of atherosclerosis. The effects of physical activity may be mediated by various factors, including increased blood flow, improvements in antioxidant mechanisms (15).

- Impact on bone density

A high-intensity resistance exercise program was associated with significantly less

progression of radiographic damage in the joints of the hands and feet (14). However, in another study, a similar program was associated with increased radiographic damage in large joints (16). Physical activity may have beneficial effects on small joints and detrimental effects on large weight-bearing joints, especially those that already show rheumatoid lesions.

- Impact on pain and fatigue

Joint inflammation manifests as pain with or without local changes. Pain leads to avoidance behavior and kinesiophobia. An individually tailored program of regular physical activity is associated with a reduction in pain perception and fatigue(17). Fatigue is a highly subjective symptom, the severity of which is not a good marker of physical activity level or exercise capacity (18). In addition, a recent meta-analysis showed an association between physical activity and improved symptoms of depression (19).

❖ Resistance Exercise

The physical activities recommended for rheumatoid arthritis should be doable by patients, despite their joint deformities. Resistance training involves repeated performance of exercises specifically designed to increase muscle strength by gradually increasing resistance to movement. Resistance exercises should target the major muscle groups of the upper and lower body involved in function and mobility.

❖ Aerobic Exercise

Aerobic exercise seeks to increase peak oxygen consumption by increasing the heart rate to 50%–80% of maximum heart rate. Aerobic exercise has many benefits. Physical activity and aerobic exercise training have anxiolytic and antidepressant effects. Aerobic exercises can start with a duration of 5–10 minutes in the first weeks, progressing to 15–30 minutes for the rest of the program, with a frequency of 3 to 7 days per week (20).

It is important to note that increasing physical activity or performing different types of exercise, even high-intensity exercise, is safe in rheumatoid arthritis, with no studies reporting adverse effects (21). A sedentary lifestyle in RA may further promote an increased risk for future development of CVD (22).

CONCLUSION

In conclusion, it can be summarized that patients with rheumatoid arthritis should be encouraged to implement programs related to improving their physical activity. Increasing their physical activity will result in a number of benefits related to: the development and progression of the disease, a beneficial effect on bones, an increase in psychoemotional state and thus a decrease in the perception of pain and fatigue.

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