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Original article

OCCUPATIONAL THERAPY TO INCREASE THE QUALITY OF LIFE FOR CLIENTS WITH RHEUMATOID POLYARTHRITIS

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Abstract

The application of an occupational therapy program addressed to a client with rheumatoid arthritis leads to an improvement in physical mobility, the level of participation and occupational performance, for the achievement of daily life. Finding structured rehabilitation programs through occupational therapy for the client with rheumatoid arthritis, through which joint protection education, the adoption of a correct biomechanics of the whole body, environmental adaptation in order to optimize the habitat according to the restrictions due to the disabling disease of the client. A series of intervention methods and techniques were used in the course of the activity, among which we mention: The Canadian Occupational Performance Questionnaire, the ADL Scale, the IADL Scale, the VAS Scale and the WOMAC Scale. Depending on the results obtained at the initial tests and applying the occupational therapy programs, a significant improvement in occupational performance and satisfaction was observed. The client manages to bathe independently after the therapeutic intervention plan has been carried out and thanks to the numerous adaptations of the space. The satisfaction is major because it can be independent, thus self-esteem and confidence have increased a lot. The joint swelling decreased and the physical function increased noticeably, the client having a greater capacity for effort, can move much more easily both to carry out her daily activities and in her professional activities. In everyday and instrumental activities, it was possible to improve daily activities such as bathing alone, and performing household and professional activities can be done with greater ease. Rheumatoid arthritis has serious consequences both on the physical health of those affected, as well as a negative impact on the quality of life. Occupational therapy contributed to the improvement of mobility and functionality in daily activities, to the modification of lifestyle and self-management of the disease, to the increase of the quality of life.

Keywords: rheumatoid arthritis, quality of life, self-management, daily activities, lifestyle

Introduction

Occupational therapy is the form of treatment that uses specific activities and methods to develop, improve or restore the ability to carry out the activities necessary for the individual's life, to compensate for dysfunctions and to reduce physical deficiencies. The goal is primarily the medical one (to promote health and well-being) and then the economic-social one, pursuing the therapeutic effect through work, through activity.

In this sense, occupational therapy stimulates the natural development of the personality, organizes a program of directed movements in working conditions, ascertains the patient's outstanding abilities and inclinations, correlates the medical recovery with the professional one, achieves the reinsertion as quickly as possible in social and professional life(George, L., Schkade, J., & Ishee, J., 2004).

Rheumatoid arthritis has serious consequences both on the physical health of those affected and a negative impact on the patients' quality of life. In general, rheumatoid arthritis mainly affects women, being twice as common as men (Aktekin, L., Filiz, E., Baskan, B., Filiz, S., Simten, M., Oksuz, E., & Bodur, H., 2011).

Most patients present a fluctuating chronic evolution of the disease, which untreated leads to progressive, irreversible joint destruction, with permanent joint deformations, accompanied by functional deficit and reduced life expectancy. The severity of the disease results from the fact that more than 50% of patients stop their professional activity in the first 5 years of the disease, and in 10% of cases a serious disability occurs in the first 2 years of evolution. (Backman, C.L., Village, J., & Lacaille, D. 2008).

The occurrence of visceral lesions is responsible for shortening the average life span by 5 to 10 years. Rheumatoid arthritis is thus not only an important medical problem, but also a social, public health problem12, especially since, after diabetes, in patients with severe, active disease, it is the first cause of "heart diseases" (Creţu A. 2003)

Clinically, rheumatoid arthritis is a chronic polyarthritis. In most cases, the onset of the disease is slow, lasting weeks or months. In approximately two-thirds of patients, it begins insidiously with fatigue, anorexia, generalized weakness and vague musculoskeletal symptoms until the obvious appearance of synovitis (Bradley, S., & Adams, J., 2013).

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This problem may persist for weeks or months and may delay diagnosis. The specific symptoms usually appear gradually, when several joints, especially those of the hands, fist, knee and leg, are affected in a, in most cases, symmetrical manner. (Hammond, A. 2013)

Some features appear early in the disease, such as general fatigue, low fever and weight loss that dominate the clinical picture, thus causing diagnostic problems. The patient's main complaints at the time of presentation are related to these joints and are represented by pain, morning stiffness, swelling, or even a limitation of mobility and even joint deformities(Cooney, J., Law, R., Matschke, V., Lemmey, A., Moore, J., Ahmad, Y., Jones, J., Thom, J. 2011).

The pain caused by tightening of the metacarpophalangeal joints is an important diagnostic clue for rheumatoid arthritis. Involvement of the distal interphalangeal joints occurs but is rare and should be differentiated from incidental osteoarthritis (Dreiling, D., 2009).

As the disease progresses, signs of irreversible tissue damage appear. The destruction of cartilage and bone, as well as the weakening and rupture of tendons and joint misalignment are all factors that contribute to the pathogenesis of hand deformities. Anemia and cardiovascular disease are two of the most common complications of rheumatoid arthritis. Up to 30% of patients with rheumatoid arthritis suffer from anemia, a complication that causes frequent states of asthenia and fatigue (Eckloff, S. G., & Thornton, B. C., 2002).

Apart from the pain caused by joint damage, the feeling of fatigue is the most frequent problem reported by patients with rheumatoid arthritis. Also, in these patients there is an increased risk of cardiovascular disease, when inflammation is caused by increased plasma levels of C-reactive protein (CRP). (Gignac, M.A., Sutton, D., & Badley, E., 2006).

Loss of work capacity is, among other things, the consequence of progressive disability. In Europe, 40% of people suffering from rheumatoid arthritis had to stop working because of the disease. Most of the people diagnosed with this disease were of working age. This leads to reduced quality of life as well as economic hardship (reduced income and increased costs of illness). Early diagnosis and the implementation of an effective treatment are the necessary conditions for a patient to sustain the activity, both professional and social, which is of crucial importance to reduce the negative effects of the disease (Gilworth, G., Chamberlain, A., Harvey, A., Woodhouse, A., Smith, J., Smyth, M., & Tennant, A., 2003).

In rheumatic diseases, multiple organ failure, often leading to death, is a major consequence. In rheumatic diseases, multiple organ failure, often leading to death, is a major consequence. Inability to function in a labor market (loss of work capacity) is also a common implication. Rheumatoid arthritis begins in the most productive segment of the population: those aged between 35 and 50 years. The earlier the disease appears, the more likely it is to develop severe, disabling complications in the affected patients (Goodacre, L. & McArthur, M., 2013).

It is estimated that, in developed countries, 5 years after the diagnosis, 40% of patients with rheumatoid arthritis are no longer able to work full time, and 10 years after the diagnosis, they manage to work only 50% of the work time. In Great Britain, rheumatoid arthritis annually generates over 9 million visits to the family doctor, which represents production losses of 833 million pounds (WHO, 2019)).

It is estimated that the financial impact this disease had on the British economy in 2000 was 5.5 billion pounds.

Experts from the United States estimate that rheumatoid arthritis causes the greatest economic losses, compared to any other disease, these losses being estimated at 128 billion dollars annually(WHO, 2019).

Rheumatoid polyarthritis is the most common chronic inflammatory rheumatism, also known as chronic evolving polyarthritis. Its main characteristic is the presence of an inflammatory infiltrate in the articular synovial tissue.

The name polyarthritis comes from the fact that several joints are affected at the same time during the evolution of the disease. This disease is more common in women than in men, almost two to three times, with the maximum incidence in the age range of 30-40 years. (Macedo, A. M., Oakley, S. P., Panayi, G. S., & Kirkham, B. W. 2009).

Over time, rheumatoid arthritis can cause joint deformation and displacement. Early rheumatoid arthritis tends to affect your smaller joints first, especially the joints that attach your fingers and toes(Mark A Williams, Sarah E Lamb.& 2015).

As the disease progresses, symptoms often spread to the wrists, knees, ankles, elbows, hips and shoulders. In most cases, the symptoms appear in the same joints on both sides of the body (Bennett, S., Rodger, S., Fitzgerald, C. and Gibson, L. 2017).

Occupational therapy is primarily concerned with ensuring the health and optimal functioning of the individual in his environment. Occupational therapy is the art and science of directing the individual marked by illness or disability to participate in certain activities in order to restore, strengthen or improve their performance, to facilitate the acquisition of those skills and functions that are necessary for adaptation and productivity and the reduction or correction of the pathology, for maintaining health. (Law, Mary & Baptiste, Sue & McColl, MA & Opzoomer, Anne & Polatajko, Helene & Pollock, Nancy., 1990).

Patients with rheumatoid arthritis show a reduction in physical capacities compared to healthy people. Symptoms such as pain, fatigue, stiffness, and decreased muscle strength cause difficulty in daily activities such as grooming and dressing, cooking, cleaning, shopping, work, and leisure activities(Hanne Tuntland, Kåre Birger Hagen. & 2009).

The physical, personal, family, social and occupational consequences of rheumatoid arthritis are extensive. Occupational therapy deals with facilitating people in carrying out their daily activities and overcoming barriers by

maintaining or improving skills or compensating for decreased ability to perform occupations (Ted R. Mikuls, Matthew Rizzo., & 2023).

The most important interventions in occupational therapy are skill training, counselling, teaching joint protection skills, prescribing assistive devices and providing splints. (Aud Rønningen, Ingvild Kjeken. 2008).

Clients with chronic illnesses need health care providers to provide education and support regarding self-management. Therefore, occupational therapists can provide this support to clients with RA by promoting change in thinking and behaviors related to disease management and how self-management strategies can be incorporated into clients' roles and routines (Rostislav A. Grekhov, Galina P. Suleimanova, Andrei S. Trofimenko, Liudmila N. Shilova. 2020).

Interventions include the following: self-management, joint stability; energy conservation, pain management; drug management, mental health maintenance, use of adaptive equipment, upper extremity orthoses, use of therapeutic exercise; and surgical interventions (Robertson L. 1988).

The OA model, emphasizing concepts of occupation and adaptation, a model that determines greater adaptability of clients. (Hammond, A. 2013).

Inability to participate and engage in meaningful occupations occurs because an individual's ability to adapt has been impaired. In the case of people with rheumatoid arthritis, the associated symptoms hinder the adaptation process resulting in a decreased ability to participate in significant occupations(Cristina E Romaniello, Kim M Jordan., & 2022).

The OA model also highlights the interaction between internal and external factors. The internal factor consists in the person's desire to master occupations in the presence of pain and/or joint disease processes, while the external factor consists in managing the external environment. The internal and external factor, i.e. the person and the environment, continuously interact with each other by participating to daily activities thus creating an occupational challenge (Custard C., 1998).

As a result, the person must then adapt to produce an occupational response to fulfill the expected role. This is known as the process of occupational adaptation.

Within the occupational adaptation process there are three subcomponents that are internally activated as a result of the occupational challenge

Throughout the first phase entitled adaptive response mechanism, the individual plans an adaptive response by selecting adaptive energy, modes and behaviors that have been learned from previous experiences. (Pedro Henrique Tavares Queiroz de Almeida, Tatiana Barcelos Pontes, João Paulo Chieregato Matheus, Luciana Feitosa Muniz, Licia Maria Henrique da Mota, 2015).

After the plan of action has been created, the individual must then configure the sensorimotor, cognitive and psychosocial systems of the body.

This process is known as adaptation process. The adaptive response combination results from the individual's ability to internally adapt to a professional challenge.

The third and final component of the occupational adjustment process includes occupational response assessment. In this phase, the person evaluates the efficacy and self-satisfaction of his mastery. (Pasqui, F., Mastrodonato, L., Ceccarelli, F., Scrivo, R., Magrini, L., Riccieri, V., Di Franco, M., Gentili, M., Valesini, G., & Spadaro, A. 2006).

As previously mentioned, the symptoms of clients with rheumatoid arthritis hinder the adjustment process and lead to difficulties in engaging in meaningful occupations.

Occupational adaptation among people with rheumatoid arthritis is inadequate, placing a significant impairment on the individual's ability to adapt.

The main goal of occupational therapists with clients diagnosed with rheumatoid arthritis is to help them restore their adaptive capacity, self-manage their symptoms, and achieve emotional mastery.

Occupational therapists possess the knowledge and skills to address the many needs of clients suffering from chronic illnesses by educating and facilitating adaptations to everyday occupational disruptions. (Siti Hana Nasir, Olga Troynikov. 2019).

In addition to occupational therapy, it provides key tools for chronic disease management clients found through a retrospective qualitative study that those clients who received occupational therapy services felt they were better able to adapt and use various management strategies to better address occupational performance issues.

Objectives

The theoretical objectives aimed at:

- Rheumatoid polyarthritis as a rheumatic condition through the definition and epidemiological, etiological classification, risk factors, physiopathology, positive and differential diagnosis methods in medical practice, frequent clinical forms, evolutionary prognosis and possible complications, as well as different associated pathologies.
- Occupational therapy applications for the client with rheumatoid arthritis aimed at improving mobility and functionality in terms of daily activities, a therapeutic education for him in order to change his lifestyle and self-manage the disease, functional assessment modalities to be able to recommend devices aids necessary to lead an active and normal life.

- Finding structured rehabilitation programs through occupational therapy for the client with rheumatoid arthritis through which joint protection education can be achieved, adopting a correct biomechanics of the whole body, adapting the environment in order to optimize the habitat according to the restrictions due to the disabling disease of the client.

The application objectives aimed at:

- Regarding the applied objective of this research, it consisted in the development of an intervention approach based on the specific means of occupational therapy addressed to a second-age client, diagnosed with rheumatoid polyarthritis.
- Considering the multiple negative effects induced by the condition on the level of participation and occupational performance, the first step in the approach to the client will always be the application of a comprehensive assessment that constitutes the premises of a correct and realistic occupational diagnosis.

Research hypotheses:

- Participation in occupational therapy programs for clients with rheumatoid arthritis leads to improved participation and occupational performance.
- Participation in occupational therapy programs in the case of the client with rheumatoid arthritis leads to an increase in the level of autonomy in performing ADLs and IADLs.
- Occupational therapy as a means of intervention addressed to the client with rheumatoid arthritis contributes to the improvement of painful symptoms.

Methods

The application of an OT program addressed to a client with rheumatoid arthritis leads to improvement in physical mobility, the level of participation and occupational performance, for the achievement of daily life. The specific model of occupational therapy was the Canadian Model of Occupational Performance (CMOP). The Canadian Occupational Performance Questionnaire, ADL Scales, IADL Scales, VAS Scale and WOMAC Scale were used to assess the client.

The Canadian Occupational Therapy Practice Process, developed by Helene Polatajko, Janet Craik, Jane Davis and Elizabeth Townsend, was chosen because it facilitates client-centered practice - which is grounded in scientific evidence, takes a very complex approach to the client and approaches therapy from -a humanistic perspective.

This process includes 8 key stages (initiation, setting the framework, evaluation, setting goals/plan, putting the plan into practice, monitoring, evaluating results and closing) - which take into account knowledge, occupations, practical skills, experiences, resources, habits and the personal values brought into the therapeutic relationship by both the client and the therapist. It can be applied in numerous practice contexts and allows the therapist to work individually and in groups, even in an interdisciplinary setting.

1. Initiation: The therapist's relationship with the client is essential in the success of the intervention specific to occupational therapy. After presenting all aspects of the process, we received consent to start the process immediately (we still explained the benefits of the therapy, informed her about confidentiality and discussed the approach we propose).

2. Establishing the framework: In order to establish the objectives of the intervention (related to the research hypotheses) we established the client-centered practice as a reference framework. According to this framework, a collaborative relationship is established between the therapist and the client, in which the therapist shows respect for the knowledge and experience of the client. He is actively involved in the decision-making process, and the therapist acts as a defender of the client. A partnership relationship is established, the client's occupational goals being a priority. Research has shown that client-centeredness is good to be used in combination with the Canadian Model of Occupational Performance (CMOP), in order to achieve satisfaction and increase the level of self-sufficiency. The client has been suffering from rheumatoid polyarthritis for about 5 years, but in recent months she has been experiencing severe pain in the joints of her upper and lower limbs on the left side. The client being clumsy. Reason that led to the limitation of the movements of the left hand, balance and walking. He lives with his husband and daughter at home in Pitesti. The house in which I live is equipped with everything necessary: a bathroom, a kitchen, 2 bedrooms and a living room. The income it has is 3000 lei. The client works in a beauty salon. This being hairstyling. Since the onset of severe pain in the left hand which is due to the onset of carpal tunnel pain syndrome, the functional impotence which is due on the one hand to pain, inflammation, but also to the changes in the hand, this has not been my could carry out his activities in the salon. In addition to these pains in the left hand, the client complains of pain in the knee and in the left sole, which prevents her from being fit for everyday activities. Discussing about the occupations that give him pleasure, I found out that he liked very much to go with his girlfriends to (society) dance classes, to take care of the small garden with flowers around the house, to go to the mountains with his family and friends, this being a very active person, despite the obesity she has been suffering from since childhood. As a possible goal of the process, we established together with her that it would be to obtain independence, autonomy, to be able to carry out her professional activity, something that is currently rather difficult to achieve due to the health problems that have arisen, the realization of house maintenance activities, the preparation of the daily meal, the return to dance classes, an activity that offered him relaxation, immersion in it, acceptance by society.

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3. Evaluation: It is an extremely important stage, which involves identifying the client's main occupational problems. In our case, in order to evaluate the client's occupational profile, we conceptualized the case according to the Canadian Model, using the following evaluation tools, the Canadian Occupational Performance Questionnaire (COPM - Canadian Occupational Performance Measure). For pain evaluation we applied the VAS scale and WOMAR scale and for daily life activities we applied the ADL Scale and for current activities the IADL Scale. For the most efficient evaluation of the client, we used the PEO model in the first phase. According to the CMOP, we used in practice the Canadian Occupational Performance Questionnaire, which identifies the personal, occupational and environmental factors that contribute to the client's occupational problems. In the following, we moved on to the conceptualization of the case by applying the Person – Environment – Occupation model, an extremely useful model in the practice of the occupational therapist. The pragmatic aspect of this approach consists in structuring the relevant information, specific to the effective implementation of an intervention based on the means specific to occupational therapy, which takes into account the psycho-individual particularities of the approached client.

Results and Discussions

Depending on the results obtained at the initial tests and applying the occupational therapy programs, a significant improvement in occupational performance and satisfaction was observed.

Table 1.-The COPM questionnaire

Occupational performance problems	**Performance**		**Satisfaction**	
Testing	**I.T.**	**F.T.**	**I.T.**	**F.T.**
1 She has no free time activities (you can't attend dance classes with her friends).	**4**	**10**	**4**	**10**
2. She cannot perform the bathing activity by herself	**5**	**9**	**6**	**10**
3. She cannot do the cleaning and meal preparation activities by herself	**4**	**9**	**4**	**10**
4. He cannot perform the work activity -hairstyling.	**4**	**9**	**4**	**10**
TOTAL SCORE = Total performance or satisfaction score / no of problems	Performance score. 1/=4,25	Performance score 2/=9,25	Satisfaction score 1 /=4,50	Satisfaction score 1 /=10

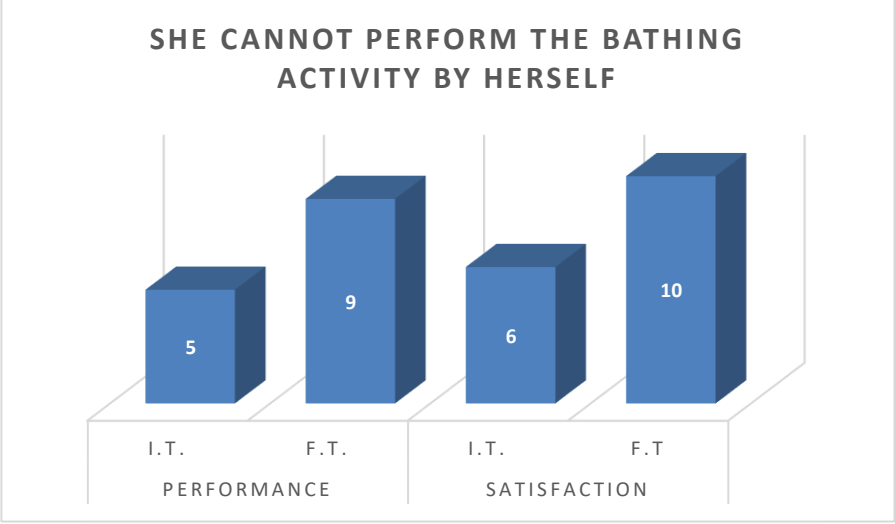

Figure 1. Assessment of the SMART objective "Can't bathe her-self"

Following the application of the therapeutic intervention plan, a significant increase can be observed in the values initially tested through the COPM Questionnaire (performance and satisfaction) for the first objective. The client succeeds independently after the therapeutic intervention plan was carried out and thanks to the numerous adaptations of the space, to take a bath. The satisfaction is great because it can be done independently, so self-esteem and confidence have increased a lot.

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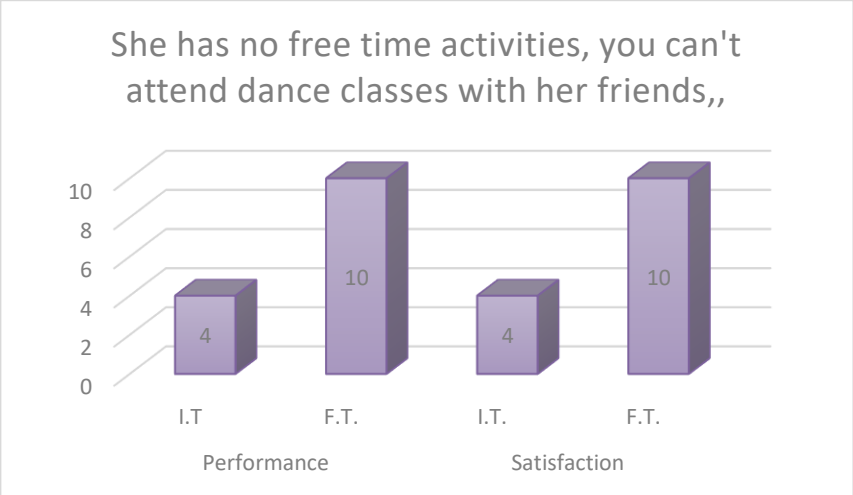

Figure 2. Evaluation of the SMART objective,"She has no free time activities, you can't attend dance classes with her friends

Following the application of the therapeutic intervention plan, a significant increase in the values initially tested through the COPM Questionnaire (performance and satisfaction) for the second objective can be observed. The resumption of dance classes was not only an opportunity for the client to socialize, but to restore her confidence in her own strength, her independence from other people and the motivation to overcome these physical, emotional and social obstacles.

Table 2. Evolution of the WOMAC Scale

Components tested	Initial testing	Final testing
Pain	21	14
Joint swelling	18	8
Physical function	54	37

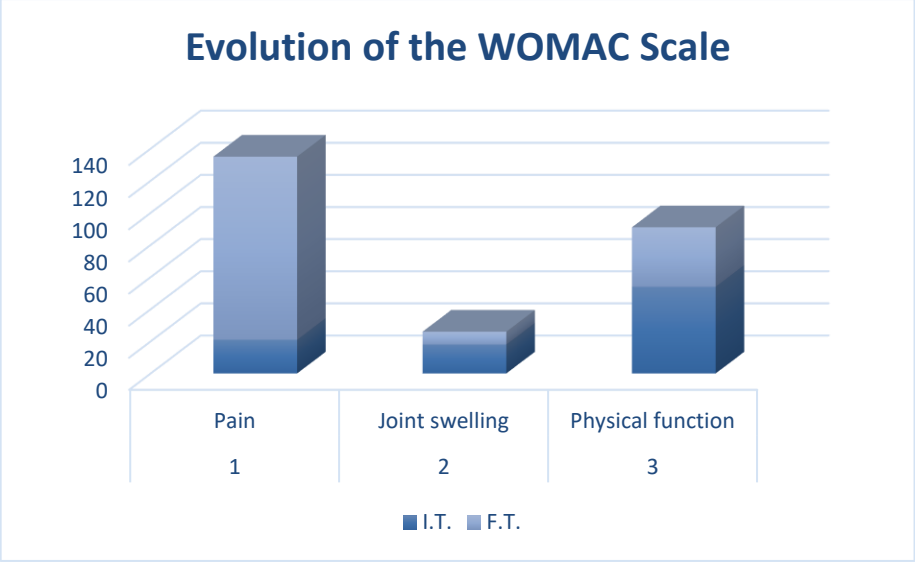

Figure 3. Evolution of the WOMAC Scale

Following the application of the therapeutic intervention plan, the client obtained a value of 14 on the final WOMAC Scale test, which indicates that the pain cannot be ignored for more than 30 minutes and she needs moderate intensity analgesics. Joint swelling has decreased and the physical function has significantly increased, the client has a greater capacity for effort, she can move much more easily both to carry out her daily activities and in her professional activities.

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Table 3. Evolution of the VAS Scale

Testarea inițială scala VAS	Testarea finală scala VAS
6	3

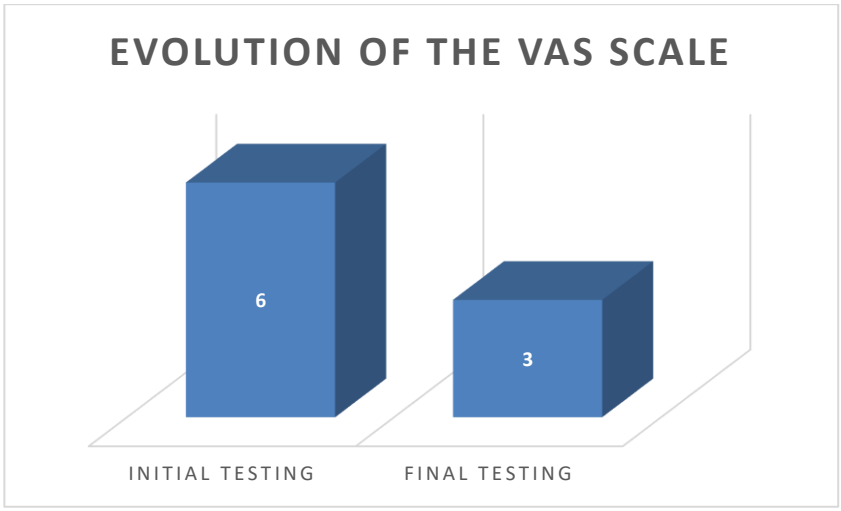

Figure 4. Evolution of the VAS Scale

Following the application of the therapeutic intervention plan, the client obtained a value of 3 at the final test of the VAS Scale, which indicates that the pain has decreased in intensity but cannot be ignored, especially when it is in the morning. The client needs analgesics of moderate intensity.

Table 4. Evolution of the ADL Scale

Initial testing ADL Scale	Final testing ADL Scale
3	6

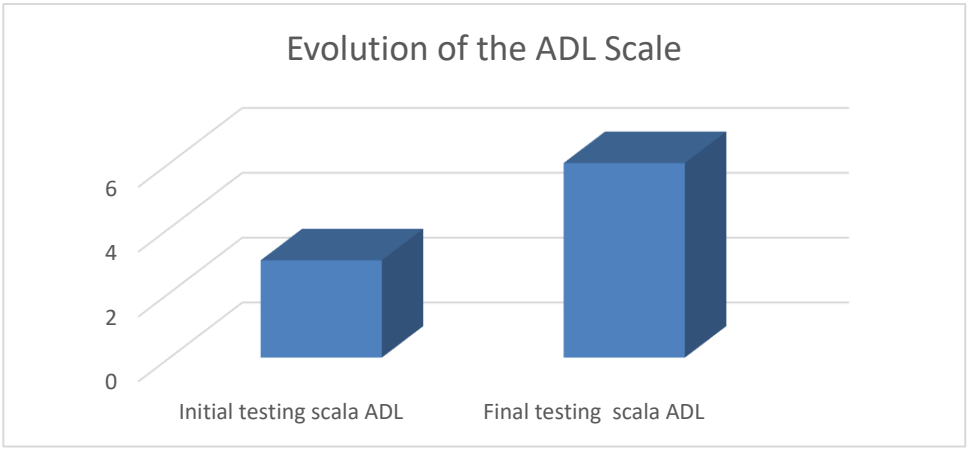

Figure 5. Evolution of the ADL Scale

Table 5. Evolution of the IADL Scale

Initial testing IADL Scale	Final testing IADL Scale
4	7

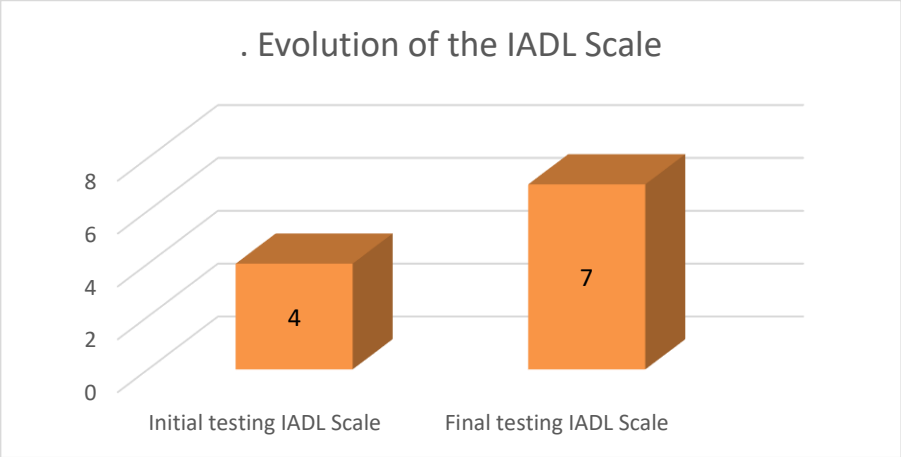

Figure 6. Evolution of the IADL Scale

Following the application of the therapeutic intervention plan, the client obtained a value of 6 on the final test of the ADL Scale and a value of 7 on the IADL Scale, which represents the fact that she managed to improve her activities through which she can bathe herself and carrying out household and professional activities can be done with greater ease.

Conclusions

Rheumatoid arthritis has serious consequences both on the physical health of those affected, as well as a negative impact on the patients' quality of life. In general, rheumatoid arthritis mainly affects women, being twice as common as men.

Most patients present a fluctuating chronic evolution of the disease, which untreated leads to progressive, irreversible joint destruction, with permanent joint deformations, accompanied by functional deficit and reduced life expectancy. The severity of the disease results from the fact that more than 50% of patients stop their professional activity in the first 5 years of the disease, and in 10% of cases a serious disability occurs in the first 2 years of evolution.

The occurrence of visceral injuries is responsible for shortening the average life span by 5 to 10 years. Rheumatoid arthritis thus represents not only an important medical problem, but also a social, public health problem12, especially since, after diabetes, in patients with severe, active disease, it is the first cause of "heart diseases"

From a clinical point of view, rheumatoid arthritis is a chronic polyarthritis. In most cases, the onset of the disease is slow, lasting weeks or months. In approximately two-thirds of patients, it starts insidiously with fatigue, anorexia, generalized weakness and vague musculoskeletal symptoms until the obvious appearance of synovitis.

The applications of occupational therapy in the patient with rheumatoid arthritis led to the improvement of mobility and functionality in terms of daily activities, to his therapeutic education in order to change the lifestyle and self-management of the disease

Following the application of the therapeutic intervention plan, a significant increase in the values initially tested through the COPM Questionnaire (performance and satisfaction) for the first objective can be observed.

The client, following the application of the therapeutic intervention plan, he obtained at the final test of the VAS Scale the value of 5, which indicates that the pain cannot be ignored for more than 30 min, and he needs analgesics of moderate intensity

The client, following the application of the therapeutic intervention plan, obtained a value of 6 on the final test of the ADL Scale and a value of 7 on the IADL Scale, which represents the fact that he managed to improve his activities through which he can bathe himself, which confirms the achievement the first objective

Following the application of the therapeutic intervention plan, the client was able to participate in the occupation of fishing, included in the area of free time activities, with her grandchildren by using specific equipment for the safe performance of this occupation.

The client, learned how to manage his painful complaints (joint protection techniques, avoiding prolonged orthostatism and using an adapted chair to be able to spend his free time fishing with his two grandchildren.

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