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Research Article

EFFECTS OF AN EDUCATIVE PROGRAMME BASED ON OCCUPATIONAL THERAPY IN QUALITY OF LIFE OF PEOPLE WITH RHEUMATOID ARTHRITIS

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A R T I C L E I N F O

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A B S T R A C T

Objectives: To determine if an educative intervention based on occupational therapy focused on performance reorganization for patients with rheumatoid arthritis reduces pain and improves quality of life. **Methods:** Randomized controlled intervention study through an educative group programme of seven occupational therapy sessions, conducted in five weeks. **Results:** We found an improvement in quality of life scores (p=0,001, p=0,08), as well as pain intensity evaluated with MPQ (McGill Pain Questionnaire) measures. **Conclusions:** The programme was effective in changing the studied variables, although a new study with a larger sample is required.

INTRODUCTION

Material and Methods

The development of a five-week experimental controlled study was proposed, with a randomly selected sample of population from hospitals being patients with rheumatoid arthritis who met the criteria of the American College of Rheumatology (ACR) in 1987[1]. A group educational intervention based on occupational therapy was applied and aimed at restructuring occupational performance towards significant activity. Out of a total of more than 1000 patients attended at La Princesa University Hospital, 617 subjects were selected since they met the ACR 1987 Revised Classification Criteria. This patient selection was randomized in Excel for Windows, where 272 were finally selected on a random basis.

The first group interviews were arranged in which two main aspects were pursued, that is, in the one hand, patients to be informed of the content of the programme, and, on the other hand, the collection of the signed informed consent. 69 people could not be reached and 136 individuals were contacted, one of whom had died, 10 refused to participate, 16 were excluded because of their pathologies that constitute the exclusion criteria, 11 subjects could not participate due to work duties, 5 could not attend the whole study because they were informal caregivers and finally 31 individuals did not attend the first appointment, despite the interest expressed in participating.

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So, 62 patients were recruited, who were randomly assigned to a control group or experimental group until two groups of 31 people were constituted. All of them had chronic pain, longer than six months, caused by rheumatoid arthritis with the following inclusion and exclusion criteria:

- Patients of either sex, aged between 30 and 90, diagnosed of rheumatoid arthritis that have chronic pain as a result of their disease, regardless the degree of joint deterioration besides the moment of diagnosis.
- Neither experiencingoncologic diseases, organic brain syndrome nor functional deterioration that would make participation impossible for this study, or other rheumatological diseases and inflammatory arthropathies different from rheumatoid arthritis that could limit the objective of the study.

A pre-, post- and follow-up assessment was carried out using the Visual Analogue Scale (VAS) for Pain besides the McGill Pain Questionnaire (MPQ), and the Spanish version of the Quality of Life-Rheumatoid Arthritis Scale (QoL-RA Scale). For the post-assessment, an ad-hoc questionnaire was created (with a Cronbach's alpha reliability estimateof 0.816) in order to collect the subjective experience of patients concerning diverse aspects such as: quality of life, pain intensity, inflammation, management of pain and inflammation, stress management or psychological tension, taking medicines and the perceived usefulness from the intervention, among others.
The treatment programme was developed over five weeks. It is also important to highlight that the contents of the last session (Joint Protection) were developed in a cross-cutting manner,

owing to the high level of interest in facing restrictions of participation in everyday activities resulting from joint damage by participants at any time. The sessions included continuous assessment tasks from week to week and, additionally, homework. The educational intervention is based not only on analyzing daily performance and occupational balance of each patient, but also it pursued its readjustment according to energy demands. Furthermore, this intervention focused on examining and properly implement break times as well as training their performance of activities and principal occupations effectively and efficiently with the aim of lessening the impact of disease,and also, the consequences of poor management resulting of both, time and energy.

The structure of the programme includes a presentation (How does arthritis affect our activity?) dealing with issues such as organizing working time, occupational balance and identifying interests. Other important aspects taken into consideration were: firstly, an analysis of activities in order to carry them out in simple steps; energy consumption and rest periods and breaks; leisure and physical activity; economics and joint protection. Once the intervention had been completed, the members of the experimental group were called to a group assessment. They were also informed of a new evaluation three months after to test not only the permanence of the effect, but also the results obtained with the education programme. The same assessments were made to the control group, same intervals and sequences, besides the follow-up evaluation three months after the post-evaluation of the intervention. Upon completion of the evaluation, also a training programme for the members of both groups (control and experimental) had been made available. In all cases, the value of $p<0.05$ was used as the level of statistical significance and the computer application used during the data analysis was SPSS v.17.0 for Windows for the statistical analysis.

RESULTS AND DISCUSSION

It was determined a normal distribution for age, whereas abnormal distribution for sex and the pre-treatment variables: level of pain, self-efficacy and quality of life. All participants resided in the Community of Madrid. The mean age of the control group is 68 years (SD=10) and the median age of the experimental group is 64 years (SD=11); so, the overall age range is 38 to 89 years. There were no significant differences in demographic variables, neither in terms of painful joints (recount of 56 joints) nor in functional situation measured by HAQ. All test subjects had knowledge of reading irrespective of educational attainment. Concerning medication, all participants were taking drugs, ranging from 1 to 14 in the experimental group (with an average of 4.2 drugs consumed) and between 1 and 8 in the control group (with a mean consumption of 4.6 drugs). The participants from both the experimental and control group had well-defined pharmacological treatment for the AR (methotrexate or other DMARDs in monotherapy or in combination with either biologic drugs such as infliximab, etanercept, rituximab, tocilizumab, certolizumab or adalimumab). 54,84% also received treatment with corticosteroids (that is, 18 subjects from the experimental group and 16 from the control one) together with analgesic drugs for pain, for instance, indomethacin, paracetamol, acetylsalicylic acid, metamizole, aceclofenac, etoricoxib or tramadol, where 53,22% of participants were taking these types of analgesics (more specifically 16 subjects from the experimental group and 17 subjects from the control group). At the end of the treatment, 46,4% of the experimental group reported having reduced or even eliminated analgesics, while there were no reductions concerning pharmacological consumption in the control group. The results obtained from the comparison of the scores recorded with the VAS when the experimental group evolution was analyzed separately during carrying out the Wilcoxon test ($p=0,376$) this test detected significant differences in the control group ($p=0.005$). Despite these results, participants showed that they felt less pain after performing daily activities ($p=0.048$). In other words, although the levels of pain could be maintained, a relevant change in the perception of pain had taken place, as demonstrated by the data obtained through the MPQ. On the contrary, when studying the data obtained with the MPQ, it is observed a totally opposite effect on the control group (Table 1).

These data could indicate that participants have evaluated the amount of pain when answering the VAS, and its perception has been reflected by the assessment through the MPQ, being totally different aspects. As has been mentioned previously, and taking into consideration the results, the amount of pain could be maintained, but there would have been changes referring to the tolerance for pain, mainly as a consequence of the training in the techniques incorporated throughout the intervention plan (Arnett *et al*, 1988; Hammond and Freeman, 2004; Krasnoff and Painter, 1999; Gerber *et al*, 1987), as in similar previous studies. This lead us to think that the sensitivity of the VAS may not have adequately measured the dimensions composing pain, though its physical quality was included, it seems that the VAS would not have effectively discriminated this physical quality from the emotional element. In the same way, the evolution carried out by the MPQ has allowed us to collect multiple dimensions, such as the cognitive, emotional and affective ones in a more sensitive way, complementing both measures. For this reason, participants would also feel less pain when carrying out daily life activities, since their performance would have been modified by the techniques aimed at implementation, besides the general body condition being influenced by the prescribed exercise programme completion.

Statistically significant differences were found for the overall quality of life score at the end of treatment ($p=0.001$) in both the Mann-Whitney U test and the Wilcoxon test.

Table 1 Results Obtained In The Evaluation of The Pre And Post Intervention With The MPQ.

Experimental Group	Pre-treatment evaluation	Post-treatment evaluation	**Control group**	Pre-treatment evaluation	Post-treatment evaluation
Ligth/Slight	25,8%	38,7%	Ligth/Slight	22,6%	22,6%
Annoying	58,1%	54,8%	Annoying	51,6%	48,4%
Distressing	16,1%	6,5%	Distressing	16,1%	12,9%
Horrible/Awful	----------	----------	Horrible/Awful	6,5%	9,7%
Atrocious	----------	----------	Atrocious	3,2%	6,5%

In the final evaluation questionnaire, 81% of the subjects indicated that they believed that their quality of life was better than before the treatment (p=0.001).

At the end of the treatment, 90% of the subjects from the experimental group pointed out that they were more careful with gestures and movements performed (p<0.001) compared to 10% of them who indicated that they maintained the same degree of care as before the treatment. In respect of their ability to control inflammation, 66, 7% of subjects felt more able to control inflammation by themselves (p=0.048) compared to 33,3% of participants who felt as capable as before finishing the workshop. With regard to pain control, 80% of patients stated that they felt more able to control pain by themselves (p=0.0001) and 20% felt that they were equally able. Finally, 96, 7% of the individuals participating in this study indicated that they felt more able to control their levels of anxiety (p<0.001). The data resulting from all these techniques allowed us to find significant differences in terms of the level of general tiredness (p=0.007) as well as the level of tiredness after doing daily activities (p<0.001). Concerning quality of life, the intervention made possible to observe significant differences after finishing the treatment (p<0.001). However, the values obtained through the analysis of the evolution of the two groups separately permitted us to appreciate two aspects: on the one hand, the control group presented significant differences (p<0.001) mainly due to worsening of scores. On the other hand, the experimental group showed improvement, although it did not reach statistically significant values, but very close to it (p=0.08). This means that two main things may have happened in the experimental group, the quality of life scores have slightly improved without reaching statistical significance, or at least they have remained without having worsened as happened in the control group. Therefore, the quality of life of the experimental group has improved in the post-treatment evaluation, even though this improvement cannot be claimed to have been statistically significant, also due to the dispersion of the scores collected, and consequently, there is need for carrying out more work along the same lines with a larger sample to obtain more conclusive results.

References

1. Arnett FC, Edworthy SM, Bloch DA, McShane DJ, Fries JF, Cooper NS, *et al*. The American Rheumatism Association 1987 revised criteria for the classification of rheumatoid arthritis. *Arthritis Rheum*. 1988; 31:315-24.
2. Chen YL, Francis A. Relaxation and imagery for chronic, nonmalignant pain: Effects on pain symptoms, quality of life, and mental health. *Pain Manag Nurs*. 2010: 11(3): 159-168.
3. Dunton WR. The principles of occupational therapy. *Public Health Nurs* 1918: 10: 320.
4. Gerber L, Furst G, Shulman B, Smith C, Thornton B, Liang M, *et al*. Patient education program to teach energy conservation behaviors to patients with rheumatoid arthritis: a pilot study. *Arch Phys Med Rehab.* 1987: 68(7):442-5.
5. Gutman S, Schindler V. The neurological basis of occupation Occup. *Ther. Int.* 2007:14(2): 71-85.
6. Hammond A, Freeman K. The long-term outcomes from a randomized controlled trial of an educational-behavioral joint protection programme for people with rheumatoid arthritis. *Clin Rehab.* 2004: 18:520-528.
7. Hinojosa J, Kramer P. Statement-fundamental concepts of occupational therapy: occupation, purposeful activity, and function. *Am J Occup Ther*. 1997: 51(10): 864-866.
8. Hinojosa J, Sabari J, Rosenfeld MS, Shapiro D. Purposeful activities. *Am J Occup Ther*. 1983: 31(12): 805-806.
9. Krasnoff J, Painter P. The physiological consequences of bed rest and inactivity. *Adv Ren Replace Ther*. 1999: 6(2):124-132.
10. Kwekkeboom KL, Gretarsdottir E. Systematic Review of Relaxation Interventions for Pain. *J Nurs Scholarship*. 2006: 38(3): 269-277.
11. Lorig K, Chastain RL, Ung E, Shoor S, Holman HR. Development and evaluation of a scale to measure perceived self-efficacy in people with arthritis. *Arthritis Rheum.* 1989:32, 37-44.
12. Lyons BG. Purposeful versus human activity. *Am J Occup Ther* 1983: 37: 493-495.
13. McCormack GL. Pain management by occupational therapists. *Am J Occup Ther*. 1988: 42: 582-590
14. Mawani A. Reducing chronic pain using mindfulness meditation: An exploration of the role of spirituality. Dissertation Abstracts International: Section B: *The Sciences and Engineering.* 2011:72(4-B): 2442.
15. Smith NR, Kielhofner G, Watts JH. The relationships between volition, activity pattern, and life satisfaction in the elderly. *Am J Occup Ther*. 1986: 40:278-283.
16. Steinbeck T. Purposeful activity and performance. *Am J Occup Ther*. 1986: 40(8):529-534.
17. Strong J. Chronic pain management: the occupational therapist's role. Br J Occup Ther. 1987: 50: 262-263.
18. Steultjens EM, Dekker J, Bouter LM, van Schaardenburg D, van Kuyk MA, van den Ende CH. Occupational therapy for rheumatoid arthritis. *Cochrane Database Syst Rev*. 2004;(1):CD003114.
19. Vago D, Nakamura Y. Selective attentional bias towards pain-related threat in fibromyalgia: Preliminary evidence for effects of mindfulness meditation training. *Cognitive Ther Res*. 2011: 35(6): 581-594.

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