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Effective OT Interventions for Pain Management in Persons with Rheumatoid Arthritis

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Background:

- Chronic pain is recognized as pain persisting past normal healing time and that may last or recur for more than 3 to 6 months. It affects about 20% of individuals worldwide (Treede et al., 2015).
- Persons diagnosed with rheumatoid arthritis (RA) identify pain as the most common reason they seek medical attention and 68-88% of persons with RA rate pain as one of their top three priorities (Lee, 2013).
- Pain for RA is often treated using a pharmacological approach involving disease modifying antirheumatic drugs, glucocorticoids, non-steroidal anti-inflammatories, and opioids. Among rheumatoid arthritis patients, chronic opioid use increased from 7.4% in 2002 to 16.9% in 2015 (Lee, Kremer, Guan, Greenberg, & Solomon, 2018).
- Occupational therapy has a unique opportunity and potential to address chronic pain before, or in conjunction with, pharmacological treatments for persons with RA.

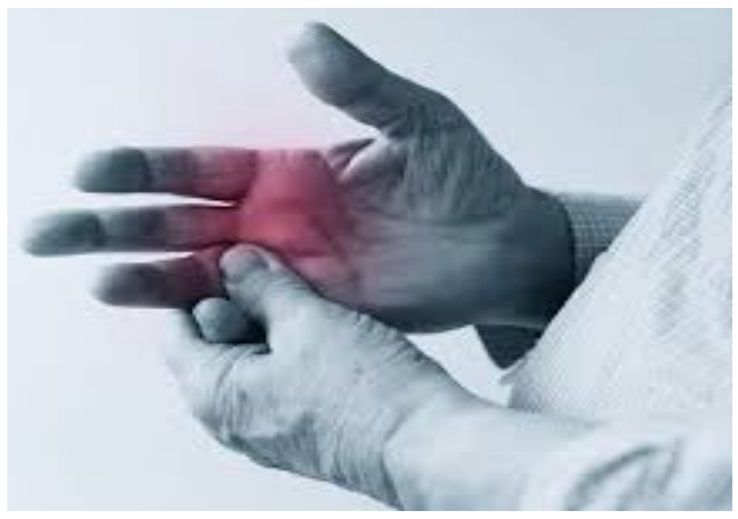

Figure 1. Rheumatoid arthritis and hand pain. Retrieved from https://painhealth.csse.uwa.edu.au/pain-module/rheumatoid-arthritis/

1 Ask: Research Question

What OT interventions can be utilized to decrease the amount of opioids being used for the management of chronic pain associated with rheumatoid arthritis?

2a Acquire: Search Terms

Databases: ProQuest, PubMed, ClinicalKey

Search Terms: Occupational therapy, pain management, chronic pain, occupational therapy intervention, opioid, adult, rheumatoid arthritis

2b Acquire: Selected Articles

Seigel, Tencza, Apodaca, & Poole (2017): Systematic review examining the effectiveness of occupational therapy interventions for adults with rheumatoid arthritis.

Masiero et al., (2006): Randomized controlled trial examining the effects of an educational-behavior joint protection program on pain, disability, and health status for individuals with moderate-severe RA by comparing the participants to a control group.

Tonga, Duger, & Karatas (2016): Exploratory randomized controlled trial comparing a physical therapy intervention to physical therapy combined with a client-centered occupational therapy intervention.

3a Appraise: Study Quality

Seigel et al. (2017): Level I. High level of evidence examining 51 studies including systematic reviews, meta-analysis and randomized controlled trials published between 2000 and 2014. Included studies evaluating an intervention approach within the scope of OT. Authors provide minimal statistical evidence to support the findings of the studies reviewed.

Masiero et al. (2006): Level II. Large n-size (n=85); randomly assigned to either an experimental group receiving educational-behavior joint protection training program and usual anti-TNF regimen (n=46) or a control group with anti-TNF regimen only (n=39). 100-mm Visual Analog Scale (VAS) completed pre-and post-test to assess pain intensity. Additional outcome measures included Ritchie Articular Index, Health Assessment Questionnaire, and the Arthritis Impact Measurement Scale II (AIMS2). Limitations in participant completion of the trial, 78.2% of the experimental group and 87.1% of the control group. Study performed in Padova, Italy and included primarily female participants (81%). Authors did not provide effect size calculations, limiting interpretation of results.

Tonga et al. (2016): Level II. Moderate n size (n=40) randomly assigned to either physical therapy (n=20) or client-centered occupational therapy with the same physical therapy intervention (n=20). The Turkish version of the Short-Form McGill Pain Index (MPI) was obtained pre-and post-test to evaluate pain. Additional outcome measures included Turkish versions of the Health Assessment Questionnaire and the Arthritis Impact Measurement 2, as well as the Canadian Occupational Performance Measure. Authors did not provide effect size, limiting interpretation of results. Long-term effects were not examined. Study conducted in Turkey and included primarily female participants (95%).

3b Appraise: Study Results

Seigel et al. (2017): Strong evidence was found supporting the use of physical activity interventions for the management of pain in persons with rheumatoid arthritis that include strength and aerobic training. Additionally, strong evidence was also indicated for the use of psychoeducational interventions that may involve education, self-management, joint protection, cognitive behavioral therapy, and comprehensive occupational therapy.

Masiero et al. (2006): The experimental group exhibited significantly less pain than did the control group ($p = 0.04$ and 0.10, respectively), as demonstrated by the VAS. Between group analysis indicated that the experimental group showed a statistically significant change in VAS score ($p = .001$). Intervention group showed a 9.1-mm difference in mean scores; 11-mm change is indicated as clinically significant.

Tonga et al. (2016): All pain scores (sensory, affective, and visual analog scale) significantly decreased in the intervention group in comparison to the control group ($p = .00$, $p = .002$, $p = .002$ respectively) as reported by the MPI. Clinically significant changes noted in MPI sensory and the visual analog scale scores (difference in mean scores equivalent to 4.3 and 2.0 respectively). Additionally, improvements in pain as measured by the AIMS2 was statistically greater in the intervention group than the control group ($p = .00$, change in mean scores of 2.45, 0.67 respectively).

4 Apply: Conclusions for Practice

Interventions within the scope of occupational therapy have been shown to be effective in decreasing pain for persons with rheumatoid arthritis. Strong evidence supports physical activity interventions involving strength and aerobic training. A combination of psychoeducational interventions including CBT, general patient education, self-management and joint protection were also demonstrated as facilitating improvements in outcomes measuring pain. Additionally, a client-centered occupational therapy approach has also been shown to reduce pain in persons with RA.

References

Figure 1. Rheumatoid arthritis and hand pain. (n.d.). [Digital image]. *The Department of Health Government of Western Australia.* Retrieved from https://painhealth.csse.uwa.edu.au/pain-module/rheumatoid-arthritis/

Lee Y. C. (2013). Effect and treatment of chronic pain in inflammatory arthritis. *Current Rheumatology Reports*, *15*(1), 300. doi:10.1007/s11926-012-0300-4

Lee, Y, Kremer, J., Guan, H., Greenberg, J., & Solomon, D. (2018). Chronic opioid use in rheumatoid arthritis: Prevalence and predictors. *Arthritis and Rheumatology.* doi: 10.1002/art.40789

Masiero, S., Boniolo, A., Wassermann, L., Machiedo, H., Volante, D., & Punzi, L. (2006). Effects of an educational-behavioral joint protection program on people with moderate to severe rheumatoid arthritis: A randomized controlled trial. *Clinical Rheumatology, 26*, 2043-2050. doi: 10.1007/s10067-0615-0

Siegel, P., Tencza, M., Apodaca, B., & Poole, J. L. (2017). Effectiveness of occupational therapy interventions for adults with rheumatoid arthritis: A systematic review. *American Journal of Occupational Therapy, 71*, 7101180050. doi: 10.5014/ajot.2017.023176

Tonga, E., Duger, T., & Karatas, M. (2016). Effectiveness of client-centered occupational therapy in patients with rheumatoid arthritis: Exploratory randomized controlled trial. *Arch Rheumatol, 31(1)*, 6-13. doi:10.5606/ArchRhuematol.2016.5478

Treede, R. D., Rief, W., Barke, A., Aziz, Q., Bennett, M. I., Benoliel, R., … Wang, S. J. (2015). A classification of chronic pain for ICD-11. *Pain*, *156*(6), 1003-1007. doi:10.1097/j.pain.0000000000000160

Research suggests that OT interventions involving physical activity, psychoeducation, and client-centered approaches may be effective in treating pain for persons with RA

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