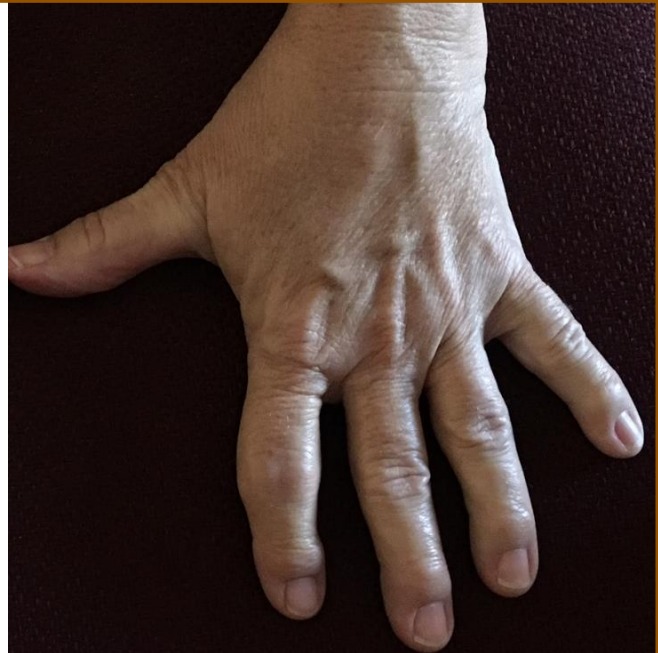
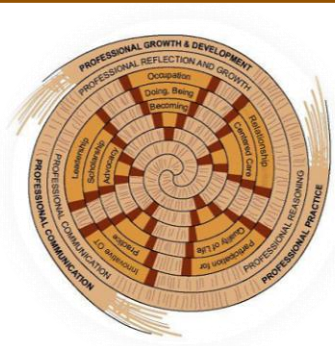


Effectiveness of Occupational Therapy Interventions for Osteoarthritis: A Systematic Review

Bebe Makena, MOTS¹ & Erika Velasco, MOTS¹

Janet L. Poole, PhD, OTR/L, FAOTA¹; Patricia Siegel, OTD, OTR/L, CHT¹; Autumn Latham, OTR/L¹; Jesse Quinlan, OTR/L²

¹University of New Mexico, Albuquerque, NM; ²Rehabilitation Hospital of Southern New Mexico, Las Cruces, NM



BACKGROUND

- Osteoarthritis (OA), the most common form of arthritis, damages the articular cartilage, synovial membrane, and subchondral bone
- OA frequently results in activity and participation limitations, decreased quality of life, pain, and excessive use of health care systems.
- National Institute of Health (2016) estimates that 27 million Americans have OA and projects an increase to 70 million by 2030.
- Persons with OA are often not referred to OT except for referrals post joint surgery.
- An understanding of the effectiveness of interventions for persons with OA can help occupational therapy (OT) practitioners select and use evidence based interventions

RESEARCH QUESTION

What is the effectiveness of interventions within the scope of occupational therapy practice on occupational performance (function), pain, fatigue, and depression in persons with osteoarthritis?

METHODS

Databases searched were Medline, PsycINFO, CINAHL, OTseeker, Ergonomics Abstracts, Cochrane Database of Systematic Reviews, Cochrane Controlled Trials Register, and DARE.

Inclusion criteria:

- Interventions within the scope of occupational therapy
- Published in English between 2000-2014
- Related to adults with OA
- Peer-reviewed scientific literature
- Levels of Evidence I, II, and III

Exclusion criteria:

- Surgical or pharmaceutical interventions
- Interventions focusing exclusively on the upper or lower body.

The final analysis included 49 studies (20 physical activity and 29 psychoeducational).

THEME	RESULTS
Patient Education and Self-Management (12/13 Level I)	Pain: ↓ pain, unplanned arthritis-related healthcare consultations, number of painful joints; ↑ use of pain management/joint protection techniques, and communicating about pain
	Occupational Performance, QOL, and Depression: ↑ mobility, physical function, self-rated health, self-efficacy; ↓ depression, hospital-related anxiety
	Fatigue: fatigue did not improve
Couple-Oriented Education and Support (3/3 Level I)	Occupational Performance and QOL: ↑ self-efficacy, exercise performance scores, coping attempts, supportive spousal behaviors
	Pain and Depression: ↓ pain, spousal stress; ↑ rational thinking
Cognitive-Behavioral Therapy (1/2 Level I)	Occupational Performance and QOL: ↑ physical function, satisfaction with body appearance and function
	Pain, Fatigue, and Depression: ↓ pain, insomnia, depression, stress; ↑ sleep efficiency
Relaxation and Stress Management (3/4 Level I)	Pain: ↓ pain, OTC pain medication use; ↑ pain tolerance
	QOL: ↑ HRQOL
	Occupational Performance: ↑ mobility
Comprehensive Occupational Therapy (0/1 Level I)	Occupational Performance: ↑ activity performance, ADL function
	QOL: ↑ performance satisfaction
Behavioral Interventions for Physical Activity (6/6 Level I)	Occupational Performance: ↑ in intention to exercise, physical activity, exercise participation, adherence to home activities, physical functioning
	Pain: Pain scores generally did not improve more than the comparison.
Aquatic Exercise (3/4 Level I)	QOL: ↑ QOL, self-efficacy
	Occupational Performance and Pain: ↑ physical function, ADL performance; ↓ body weight, lipid levels, pain perception
	Depression: ↓ depression
Land-Based Exercise Programs (8/10 Level I)	QOL: ↑ satisfaction with appearance, self-efficacy, HRQOL
	Occupational Performance: ↑ physical performance scores, physical activity, balance, severity of knee OA symptoms, pain tolerance, knowledge about pain and OA, disability scores
	Pain: Pain scores generally did not improve more than the comparison.
Upper Limb Interval Exercises (2/2 Level I)	Occupational Performance: ↑ Vo2, 6MWT
Tai Chi and Yoga (2/4 Level I)	Occupational Performance: ↑ physical function, knee extensor strength, daytime dysfunction
	QOL and Pain: ↓ fear of falling, knee pain
	Fatigue and Depression: ↓ insomnia; depression was not improved

KEY: ■ = Strong Evidence ■ = Moderately Strong Evidence ■ = Moderate Evidence = Limited, Mixed, or Insufficient Evidence

CONCLUSIONS

There is **strong evidence** to support:

- Relaxation and stress management for decreasing pain
- Behavioral interventions, and tai-chi and yoga, to improve occupational performance
- Aquatic exercise, and land-based exercise, for increasing quality of life
- *There is moderately strong evidence that patient education and self-management can also decrease pain.*

There is **moderate evidence** to support:

- Patient education and self-management, aquatic exercise, and land-based exercise, for improved occupational performance
- Relaxation and stress management for increased quality of life
- *Land-based exercises demonstrated moderate evidence that they can decrease pain, but not significantly more than comparison or control groups.*

There is **limited, mixed, or insufficient** evidence for couples education, occupational therapy and UE strengthening post lower extremity surgery.

IMPLICATIONS FOR PRACTICE/RESEARCH

- Persons with OA should be encouraged to engage in physical activity.
- Education, self-management, relaxation and stress management can be used by OT practitioners to reduce pain and improve QOL.
- Researchers should focus on evaluating client centered and occupation based interventions.
- Most of the participants were women and Caucasian. Practitioners should keep this in mind when working with people of color and men

ACKNOWLEDGEMENTS

Marian Arbesman, PhD, OTR/L; Deborah Lieberman, MHSA, OTR; and the American Occupational Therapy Association.