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Critically Appraised Paper for Occupational therapy intervention: Effects on self-care, performance, satisfaction, self-esteem/self-efficacy, and role functioning of older hispanic females with arthritis

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AOTA Critically Appraised Papers Series

Evidence Exchange

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CRITICALLY APPRAISED PAPER (CAP)

FOCUSED QUESTION

In older adult Hispanic women with osteoarthritis, are occupation-based intervention activities coupled with enabling and preparatory activities more effective than social interaction in improving perceived performance, satisfaction, participation, and self-efficacy in activities of daily living?

Landa-Gonzalez, B., & Molnar, D. (2012). Occupational therapy intervention: Effects on self-care, performance, satisfaction, self-esteem/self-efficacy, and role functioning of older Hispanic females with arthritis. *Occupational Therapy in Health Care*, *26*(2–3), 109–119. http://dx.doi.org/10.3109/07380577.2011.644624

CLINICAL BOTTOM LINE:

Arthritis is a chronic condition that presents physical and psychosocial challenges that can affect daily functioning. The researchers in this study examined two frequently used methods of occupational therapy intervention—enabling or preparatory activities and occupation-based activities—for managing and improving symptoms of arthritis to improve participation, satisfaction, and self-efficacy in activities of daily living (ADLs).

Twenty-nine older Hispanic women with osteoarthritis participated in the study and were randomized into two intervention groups and a control group. Whereas the occupation-based intervention group consisted of 10–15 min of enabling or preparatory activities, followed by 30 min of occupation-based activities, the enabling/preparatory-based intervention group consisted of 30 min of enabling intervention followed by 10–15 min of occupation-based activities. The control group participants received social visits in the same frequency and duration as the two intervention groups, without any occupational therapy. All interventions were provided in the participants' own home setting.

Results from the study indicate that participants in both the occupational-based and the enabling/preparatory-based intervention groups showed improvement in ADL performance and self-efficacy. However, only participants in the enabling/preparatory-based intervention group

showed significant improvement in perceived performance and satisfaction. Because the intervention groups received different ratios of the two interventions, the results seem to indicate that a ratio of 1:2 in occupation-based to enabling/preparatory-based activities per session may have a better outcome than a ratio of 2:1 between the two interventions.

The evidence from this study supports the idea that occupational therapy interventions consisting of both enabling/preparatory-based and occupation-based activities in the home setting increase ADL perceived performance, satisfaction, participation, and self-efficacy in older Hispanic women with osteoarthritis, thereby helping this population to more successfully age in place in their community. Further study with a larger and more diverse sample size and a longer intervention period is needed to determine the most effective ratio of enabling/preparatory-based to occupation-based activities for optimal results to improve ADL participation, perceived performance, satisfaction, and self-efficacy in older adults with arthritis.

RESEARCH OBJECTIVES

List study objectives.

Evaluate the effectiveness of occupation-based and enabling/preparatory-based occupational therapy interventions in improving ADL performance, satisfaction, and self-efficacy in older women with osteoarthritis.

DESIGN TYPE AND LEVEL OF EVIDENCE

Level I: Randomized controlled trial

SAMPLE SELECTION

How were participants recruited and selected to participate? Please describe.

Participants were recruited through informational fliers distributed at agencies and senior residences. They were selected to participate if they met the inclusion criteria.

Inclusion Criteria

The older adults included in the study were of low to medium socioeconomic status, had a diagnosis of osteoarthritis, and were living in the community (not an institution).

Exclusion Criteria

The older adults excluded from the study had advanced dementia, severe cognitive deficits, or unstable medical status.

SAMPLE CHARACTERISTICS

N = (Number of participants taking part in the study)	29

#/% Male	0/0%		#/% Female	29/100%

Ethnicity	Hispanic

Disease/disability diagnosis	Osteoarthritis

INTERVENTION AND CONTROL GROUPS

Add groups if necessary

Group 1

Brief description of the intervention	The occupation-based intervention consisted of 10–15 min of enabling or preparatory activities, followed by 30 min of occupation-based activities. Activities in the session varied on the basis of clients' goals and interests, as initially identified through a questionnaire. Enabling or preparatory activities included massage, hot packs, strengthening exercises, and range of motion exercises. Examples of occupation-based activities included performance of self-care, homemaking, and leisure activities.
How many participants in the group?	10
Where did the intervention take place?	The intervention took place at the client's residence in the community.
Who delivered?	Occupational therapists conducted the study.
How often?	The study was conducted twice per week for 45–50-min per session.
For how long?	4 weeks

Group 2

Brief description of the intervention	The enabling/preparatory-based intervention consisted of 30 min of enabling activities, followed by 10–15 min of occupation-based activities. Activities in the session varied on the basis of clients' goals and interests, as initially identified through a questionnaire. Examples of enabling or preparatory activities included massage, strengthening exercises, range of motion exercises, and hot packs. Examples of occupation-based activities included performance of self-care, homemaking, and leisure activities.
How many participants in the group?	10
Where did the intervention take place?	The intervention took place at the client's residence in the community.
Who delivered?	Occupational therapists conducted the study.
How often?	The study was conducted twice per week for 45–50-min sessions.
For how long?	4 weeks

Group 3

Brief description of the intervention	The control group participants received social visits from occupational therapists and home aids, in the same frequency and duration as the intervention groups' activities..
How many participants in the group?	9
Where did the intervention take place?	The intervention took place at the client's residence in the community.

Who delivered?	Occupational therapists and home aids
How often?	The study was conducted twice per week for 45–50-min sessions.
For how long?	4 weeks

Intervention Biases

Check yes, no, or NR, and explain, if needed.

Contamination:

YES ☐ NO ☐ NR ☒	*Comment:* Nothing in the article indicates whether any participants inadvertently received intervention other than the original assignment.

Cointervention:

YES ☐ NO ☐ NR ☒	*Comment:* The authors did not report that participants received any other form of intervention while participating in the study.

Timing:

YES ☒ NO ☐ NR ☐	*Comment:* The intervention period only lasted for 4 weeks, which might not have been enough time for statistically significant differences between the two intervention groups and the control group to emerge. This short time period could favor the control group.

Site:

YES ☒ NO ☐ NR ☐	*Comment:* All interventions took place in participants' home; thus, the environment was different for each participant and outside the researchers' control.

Use of different therapists to provide intervention:

YES ☒	*Comment:* The researchers stated that multiple therapists performed

NO ☐ NR ☐	the interventions but did not specify the number of therapists nor how they were divided among groups. Although all therapists were trained in the protocol, the use of different therapists has the potential to skew the results.

MEASURES AND OUTCOMES

Complete for each measure relevant to occupational therapy.

Measure 1

Name/type of measure used	Canadian Occupational Performance Measure (COPM)
What outcome is measured?	Overall performance and satisfaction scores in areas of occupation
Is the measure reliable?	YES ☐ NO ☐ NR ☒
Is the measure valid?	YES ☐ NO ☐ NR ☒
When is the measure used?	The COPM was used during the first and last treatment sessions.

Measure 2

Name/type of measure used	Functional Independence Measure
What outcome is measured?	Overall level of independence in self-care performance
Is the measure reliable?	YES ☐ NO ☐ NR ☒
Is the measure valid?	YES ☐ NO ☐ NR ☒
When is the measure used?	The Functional Independence Measure was used during the first and last treatment sessions.

Measure 3

Name/type of measure used	Role checklist
What outcome is measured?	The number and type of roles a person performed in the past, roles currently performed, and roles anticipated to be performed in the future
Is the measure reliable?	YES ☐ NO ☐ NR ☒
Is the measure valid?	YES ☐ NO ☐ NR ☒
When is the measure used?	The role checklist was used during the first and last treatment sessions.

Measure 4

Name/type of measure used	Self-Liking/Self-Efficacy Scale—Revised
What outcome is measured?	Self-esteem and self-efficacy as a global indicator of contentment and perceived functional ability
Is the measure reliable?	YES ☐ NO ☐ NR ☒
Is the measure valid?	YES ☐ NO ☐ NR ☒
When is the measure used?	This measure was used during the first and last treatment sessions.

Measurement Biases

Were the evaluators blind to treatment status? *Check yes, no, or NR, and if* ***no****, explain*.

YES ☒ NO ☐ NR ☐	*Comment:* Clinicians who administered the treatment were blinded to outcome measures, except for the COPM, which was used to guide intervention. The evaluators were blinded to the treatment status of the participants.

Recall or memory bias. *Check yes, no, or NR, and if **yes,** explain*.

YES ☒ NO ☐ NR ☐	*Comment:* Self reporting, such as use of a role checklist, has inherent memory bias.

Others (list and explain):

N/A

RESULTS

List key findings based on study objectives Include statistical significance where appropriate ($p<0.05$). Include effect size if reported

The researchers conducted post hoc analyses for performance, satisfaction, and both self-care and ADL function to determine patterns of change in the three groups. To protect against Type I error caused by multiple comparisons, they performed the following tests at $\alpha x = .025$. For all three measures of task-specific functioning (perceived performance, satisfaction, ADL participation), there was no statistically significant difference between the enabling/preparatory-based and the occupation-based intervention groups (perceived performance, $p = .243$; satisfaction, $p = .502$; ADL participation, $p = .898$). When compared with the control group, the enabling/preparatory-based group showed significant improvement in perceived performance ($p = .007$), satisfaction ($p = .016$), and ADL participation ($p = .015$). The occupational-based intervention group showed significant improvement in ADL participation ($p = .011$) when compared with the control group but did not show significant improvement in perceived performance ($p = .086$) or satisfaction ($p = .065$). The researchers performed the following tests at $\alpha = .05$: For both intervention groups, the average gain score for self-esteem and self-efficacy was significantly higher than for the control group ($p = .005$ for control vs. enabling; $p = .023$ for control vs. occupational). There was no significant difference between the two intervention groups ($p = .499$ for enabling vs. occupational).

Was this study adequately powered (large enough to show a difference)? *Check yes, no, or NR, and if **no**, explain*.

YES ☐	*Comment:* Given the small sample size (9–10 participants per group),

NO ☒ NR ☐	there was not enough power to determine significant differences.

Were appropriate analytic methods used? *Check yes, no, or NR, and if **no**, explain.*

YES ☒ NO ☐ NR ☐	*Comment:*

Were statistics appropriately reported (in written or table format)? *Check yes or no, and if no, explain.*

YES ☒ NO ☐	*Comment:*

Was the percent/number of subjects/participants who dropped out of the study reported?

YES ☐ NO ☒

Limitations:

What are the overall study limitations?

The study did not use a random sample to recruit participants; individuals came from the same geographic location and shared similar demographics (age, race, gender, socioeconomic status). Therefore, the results cannot be generalized to an entire population of people living with arthritis. Additionally, the sample size for the study was small; thus, statistical power is limited, and statistical significance may be hard to detect accurately. The use of two blended intervention groups made it difficult to discern which intervention method was responsible for the improvements. Finally, the intervention period lasted for 4 weeks only, which might not have been enough time for statistically significant differences between the two intervention groups and the control group to emerge. A longer study might have yielded more significant results.

CONCLUSIONS

State the authors' conclusions related to the research objectives.

Results from the study suggest that two frequently used occupational therapy methods of intervention are beneficial in improving ADL participation, perceived performance,

satisfaction, and self-efficacy in older Hispanic women with osteoarthritis. The two methods of intervention used, enabling/preparatory activities and occupation-based activities, both yielded positive physical and psychosocial changes, but the study design and the results made it difficult to distinguish between the effects of the two methods. To support these results, the study should be replicated with a larger sample size, and the intervention period should be increased to allow for the opportunity to produce more statistically significant differences between the two intervention groups and the control.

This work is based on the evidence-based literature review completed by Jennifer Borcich, OTS; Erin Sheehy, OTS; and Kitsum Li, OTD, OTR/L, Faculty Advisor, Dominican University of California.