Group-Mediated Activity Counseling and Self-Reported Physical Activity in Older, Knee Osteoarthritis Patients: Evidence from the IMPACT-Pilot Trial

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Knee Osteoarthritis (OA)

- Degenerative joint disease characterized by loss of cartilage and joint space narrowing
- Pain, stiffness, and fatigue accompanying knee OA is linked with reduced quality of life
- Knee OA is a leading cause of activity restriction, functional limitations, and disability
Physical Activity (PA) and Knee OA

- PA consistently results in modest, yet meaningful, improvements in clinically-relevant OA outcomes

- Poor post-intervention PA adherence and erosion of treatment effects undermine the efficacy of PA interventions for knee OA patients
Applying the Group-Mediated Cognitive Behavioral (GMCB) Intervention to Knee OA Patients

- Determining the efficacy of innovative PA promotion interventions is integral to enhancing lifestyle approaches to managing knee OA.

- The GMCB is one innovative intervention that has produced meaningful increases in PA among older adults with chronic disease.

Brawley et al., 2000; Rejeski et al., 2003; Focht et al., 2004; Rejeski et al., 2011
Improving Maintenance of Physical Activity in OA Trial Pilot (IMPACT-P)

- IMPACT-P is a single blind, 2 arm randomized controlled pilot trial

- Determine the comparable efficacy of traditional exercise therapy (TRAD) and GMCB PA intervention approaches for improving PA and select OA outcomes in sedentary, older knee OA patients
Participants

- 80 sedentary, knee OA patients
- $M$ age = 63 years; $SD = 6.52$
- 67% Caucasian, 26% AA, 4% Latino, 2% Asian
- Self-reported pain and functional limitations
Study Design

174 Prescreened

80 Knee OA Patients Randomized to Trial

TRAD (n = 40)
31 women & 9 men

3 Month (n = 34)
26 women & 8 men

GMCB (n = 40)
36 women & 4 men

3 Month (n = 36)
32 women & 4 men

Excluded (n = 94)
Medical = 15
Too Active = 11
Age = 15
Conflict/Not Interested = 59
No Contact = 8
Procedures

- **TRAD Intervention.** Participants received a traditional supervised center-based exercise intervention and education.

- **GMCB Intervention.** GMCB participants received the same exercise prescription coupled with 20-min of group-based self-regulatory skills counseling.

- 36 contact hours provided to each arm

- Differential timing, structure, and goals of the intervention delivery
## Procedures

<table>
<thead>
<tr>
<th>Intervention Criteria</th>
<th>GMCB</th>
<th>TRAD</th>
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</thead>
<tbody>
<tr>
<td>Exercise Prescription</td>
<td><strong>60 Minutes/Session - 30-40 Min Moderate Intensity Walking and Progressive Lower Body Strength Training 8-12 Reps of 4 Lower Body Exercises</strong></td>
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</tr>
<tr>
<td>Supervised Ex Month 1</td>
<td>2 Sessions/Week</td>
<td>3 Sessions/Week</td>
</tr>
<tr>
<td>Supervised Ex Month 2-4</td>
<td>1 Sessions/Week</td>
<td>3 Sessions/Week</td>
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<tr>
<td>Supervised Ex Month 5-6</td>
<td>2 Sessions/Month</td>
<td>N/A</td>
</tr>
<tr>
<td>Supervised Ex Month 7-9</td>
<td>1 Session/Month</td>
<td>N/A</td>
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</tbody>
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GMCB Intervention Goals

- Identical exercise prescription as TRAD arm

- Systematically phased: (a) decrease in center-based exercise and (b) increase in independent exercise and PA across the trial

- Practice of self-regulatory skills via behavioral homework assignments
GMCB Counseling Targets

- Self-monitoring of activity, effort, and symptoms
- Individual and group goal-setting
- Social problem-solving to overcome barriers to increasing physical activity
- Mindfulness-based approaches pain management
- Independent activity planning and relapse prevention strategies
Measures/Analysis

- **Moderate Intensity PA (MVPA):** Self-reported MVPA was assessed via the CHAMPS PA questionnaire (Stewart et al. 2001)

- **Cohen’s d effect sizes:** calculated via mean difference/pooled SD

- Assessments were obtained by study staff blinded to intervention assignment at baseline and 3 months

- 2 (Intervention: GMCB & TRAD) X 2 (Time: Baseline & 3 Month) ANCOVA controlling for age & BMI – Intention to treat
Results

Minutes of MVPA CHAMPS

Baseline 3 Month

Treatment x Time Interaction $p < .01$

GMCB $d = .42$
TRAD $d = -.14$
Conclusions

- Findings from the IMPACT-P trial provide evidence supporting the feasibility and preliminary efficacy of the GMCB approach for promoting short-term changes in PA among older knee OA patients.

- Results suggest that integrating self-regulatory skill counseling in PA interventions result in superior short-term increases in MVPA relative to traditional center-based exercise approaches.

- GMCB intervention represents a valuable approach to be implemented in the design and delivery of future PA interventions targeting older knee OA patients.
Thank You!