Formation of Solutions for Rheumatic Condition-related Work Barriers by Occupational and Physical Therapists

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- No disclosures
Background

- ~30% of US working aged adults with arthritis report arthritis-attributable work limitations (Theis et al., 2007)

- The Work Experience Survey for Persons with Rheumatic Conditions (WES-RC) is a tool that may be useful in addressing arthritis work disability (Allaire & Keysor, 2009)
  - Arthritis-related work barriers are identified and prioritized
  - Solutions are developed

- Occupational and physical therapists (OTs/PTs) may use the tool to reduce such arthritis work disability
Pilot study: 10 OTs/PTs found WES-RC helpful for identifying work barriers

However, the OTs/PTs had difficulty generating solutions

Therefore we developed a ‘solution manual’ containing ideas for the wide variety of barriers assessed on the WES-RC
Purpose

- Test effect of the solution manual on helpfulness of solutions developed by OTs/PTs for patients’ rheumatic condition-related work barriers
Methods - Design

- Randomized controlled trial
  - Participants (therapists) generated solutions for 3 paper patient cases, each with 3 major work barriers, for total of 9 work barriers
    - Experimental (EXPM) group received the solution manual
    - Control group (CTRL) did not receive solution manual
  - Outcome: helpfulness of solutions
Methods - Participants

- OT and PT participants
  - Recruited from professional organizations, i.e., AOTA and APTA
  - Professional members in outpatient or private practice settings
Methods - Procedures

- Paper patient case development
  - Based on patient participants in prior research (Allaire & Keysor, 2009)
  - Background and general description information provided (on WES-RC)
  - Pre-selected work barriers provided (on WES-RC)
WES-RC Barrier Checklist Example

Barriers (problems)

Section 2. Getting Ready for Work and Traveling to and from, or for Work
Please check the items that are sometimes, or always, a problem for you.

Getting ready for work
- Get out of bed
- Extra time needed for dressing, preparing breakfast, etc.
- Doing stairs at home

Traveling to and from, or for work
- Using public transportation (describe)
- Walking/standing/stairs
- Driving - check which items are problems
  - Turn head as needed for rear view
  - Get in and out of vehicle
  - Turn key in ignition

Are any of the items you checked major problems for you?
- Yes
- No

Circle the items that are major, i.e., often or fairly bothersome
Methods – Data Collection

- For each case, participants asked to list at least one possible solution for each of the case’s 3 major (most bothersome) barriers
WES-RC Section 8. Problem Prioritization and Solution Development

Review the problems identified in sections 1-7 and list the 3 most bothersome problems/barriers to employment. Then describe possible solutions to the 3 problems and resources or people who can help. Be specific.

- Problem/barrier 1: ___Prolonged standing ________________
  
- Possible solutions:
  ____________________________________________________
  ____________________________________________________
  ____________________________________________________

- Problem/barrier 2: ___Carrying suitcases and equipment for business travel___

- Problem/barrier 3: ___Attending children’s events after work due to fatigue___
Methods – Outcome
Rating of helpfulness of solutions

- By 3 investigators with expertise in rheumatology
  - ARHP members

- Backgrounds in:
  - Rehabilitation counseling (SA)
  - Physical therapy (JK)
  - Occupational therapy (NB)
Methods – Outcome
Rating of helpfulness of solutions (cont.)

- All individual solutions identified and placed on master list per barrier
- Similar solutions grouped by type (SA)
- Helpfulness of each type of solution for a case’s particular barrier situation rated on 5 point scale (SA, JK, NB)
  - 0-4 where 0=Unlikely to be helpful, and 4=Very likely to be helpful
Methods – Outcome

Rating of helpfulness of solutions (cont.)

To score each participant’s collection of solution ideas, rubric developed (SA)

4 = More than one ‘4’ solution, or one ‘4’ solution AND at least one ‘3’ solution; no ‘0’ solutions
3 = a. One ‘4’ solution and no other solutions
   b. One ‘4’ solution AND other ‘2’, and/or ‘1’ solutions
   c. Two ‘3’ solutions, and no ‘0’ solutions
2 = a. One ‘3’ solution by itself or coupled with ‘2’ and/or ‘1’ solutions
   b. One ‘4’ solution, coupled with ‘0’ solution
1 = One ‘2’ solution or coupled with other ‘2’ and/or ‘1’ solutions
0 = One ‘2’ solution with ‘1’ or ‘0’ solutions, or all ‘1’ or ‘0’ solutions
Methods - Outcome Scoring

- Scoring conducted without awareness of participants’ EXPM or CTRL status
Methods - Analyses

- Calculated proportions of therapists in the CTRL and EXPM groups whose solution ideas rated as helpful:
  - Helpful = Very likely (4) or Likely (3) to be helpful

- Wilcoxon rank tests conducted to examine differences in full range of solution helpfulness scores between the two groups
## Results – Participants, N=124

<table>
<thead>
<tr>
<th></th>
<th>EXPM Received handbook</th>
<th>CTRL Did not receive solution manual</th>
<th>Total</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational therapists</td>
<td>34</td>
<td>29</td>
<td>63</td>
<td>0.3</td>
</tr>
<tr>
<td>Physical therapists</td>
<td>27</td>
<td>34</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>61</td>
<td>63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Results: Barriers for Which the Solution Manual Added Little to Solution Development

<table>
<thead>
<tr>
<th>Work Barrier</th>
<th>CTRLs giving helpful solutions</th>
<th>EXPMs giving helpful solutions</th>
<th>p Value for 0-4 scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical activity:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying suitcases for business travel</td>
<td>86%</td>
<td>87%</td>
<td>0.58</td>
</tr>
<tr>
<td><strong>Physical activity:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prolonged standing</td>
<td>75%</td>
<td>75%</td>
<td>0.14</td>
</tr>
</tbody>
</table>
Results: Barriers for Which the Solution Manual Added a Lot to Solution Development

<table>
<thead>
<tr>
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<th>CTRLs giving helpful solutions</th>
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<th>p Value for 0-4 scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive activity:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentrating on work activities</td>
<td>45%</td>
<td>85%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Vocational direction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need to change job or career</td>
<td>35%</td>
<td>75%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Commuting:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking etc. in using public transportation</td>
<td>44%</td>
<td>67%</td>
<td>.0006</td>
</tr>
</tbody>
</table>
### Barriers for Which the Solution Manual Added Somewhat to Solution Development

<table>
<thead>
<tr>
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<th>CTRLs giving helpful solutions</th>
<th>EXPMs giving helpful solutions</th>
<th>$p$ Value for 0-4 scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Company policy:</strong> Completing required overtime hours</td>
<td>56%</td>
<td>67%</td>
<td>0.006</td>
</tr>
<tr>
<td><strong>Company policy:</strong> Unable to do some employment work at home</td>
<td>49%</td>
<td>67%</td>
<td>0.07</td>
</tr>
</tbody>
</table>
Results: Distribution of Scores for Barrier ‘Completing required overtime hours’

Control Group: 56 % helpful
Experimental Group: 67 % helpful

0: Unlikely helpful
1: somewhat unlikely helpful
2: somewhat likely helpful
3: Likely helpful
4: very likely helpful
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<th>p Value for 0-4 scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Work relationship:</strong> Feeling need to hide condition due to self-consciousness</td>
<td>32%</td>
<td>44%</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Home life:</strong> Attending children’s events due to fatigue</td>
<td>22%</td>
<td>41%</td>
<td>0.01</td>
</tr>
</tbody>
</table>
Limitations

- Based largely on scoring of participants’ solutions by one expert
  - Three experts will score participants’ solutions and reliability tested
  - In preliminary reliability of 3 experts’ scores for solutions for prolonged standing work barrier:
    - 85% of scores were identical
Conclusions

- OT/PT participants able to form helpful solutions for physical job activity types of work barriers without supplemental information (solution manual)

- Use of supplemental information improved quality of solutions for other types of work barriers

- Solution quality remained low for work relationship and family life types of barriers
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