Effectiveness of telemedicine for the delivery of an interprofessional, ACPAC-led education program for adults with inflammatory arthritis

Kennedy C1,2,3, Warnerington K4, Flewelling C5, Shupak R6, Papachristos A3, Jones C1, Linton D1, Beaton D1,2,3, Lineker S6, Hogg-Johnson S7

1 Mobility Program Clinical Research Unit, Keenan Research Centre of the Li Ka Shing Knowledge Institute, St. Michael’s Hospital; 2 University of Toronto; 3 Martin Family Centre for Arthritis Care and Research, St. Michael’s Hospital; 4 The Hospital for Sick Children; 5 Li Ka Shing International Healthcare Education Centre, St. Michael’s Hospital; 6 The Arthritis Society; 7 Institute for Work & Health

BACKGROUND

• Telemedicine-based approaches to healthcare service delivery are known to improve access to care.
• People with inflammatory arthritis living in rural areas have limited access to patient education and could benefit from the Prescription for Education (RxEd) program, an interprofessional education program.

Prescription for Education (RxEd) Program

What is it?
• One-day interactive education program, facilitated by ACPAC*-led, interprofessional team.
• ACPAC (Advanced Clinician Practitioner in Arthritis Care)

Program format
• Didactic presentations followed by question & answer and panel discussions, small group learning, and case studies.
• Adult learning best practices.
• Integrated self-management strategies.

Evidence
• Wait-listed controlled study showed RxEd improved health-related outcomes. (Kennedy et al, J Rheum 2011; 38(10):2247-2257)
• Analyses performed:
  • Baseline comparison (I vs R).
  • Mean scores plotted over time (I vs R).
  • Generalized Estimating Equations (GEE) Analysis:
    Outcome = group (I/R) group*time group*time
  • Estimated differences between pre and post intervention.

OBJECTIVES

• To evaluate the effectiveness of telemedicine delivery of RxEd program in improving health-related outcomes (arthritis self-efficacy and other secondary outcomes (arthritis knowledge, coping efficacy, illness intrusiveness, and effective consumer)).
• To compare health-related outcomes in remote versus local (in-person) participants.

METHODS and ANALYSIS

• Participants: Adults with inflammatory arthritis attending the RxEd program locally (I=in-person) or at one of six rural (R=remote) sites.
• Data collection: Self-report questionnaires. Measures included demographics, arthritis self-efficacy and other secondary outcomes (arthritis knowledge, coping efficacy, illness intrusiveness, and effective consumer).
• Analyses performed:
  • Baseline comparison (I vs R).
  • Mean scores plotted over time (I vs R).
  • Generalized Estimating Equations (GEE) Analysis:
    Outcome = group (I/R) group*time group*time
  • Estimated differences between pre and post intervention.

RESULTS

• Characteristics of participants by group (I vs R).
  • No significant baseline differences.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Group</th>
<th>In-person (I) (n=123)</th>
<th>Remote (R) (n=76)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>58.3</td>
<td>58.6</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>Gender (female)</td>
<td>91.7%</td>
<td>87.4%</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>RA Activity index</td>
<td>4.4</td>
<td>4.7</td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td>Duration diagnosed with arthritis (years)</td>
<td>11.6</td>
<td>7.9</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>Arthritis self-efficacy (1 to 10, 10=more effective consumer)</td>
<td>4.7</td>
<td>5.0</td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td>Previous knowledge (ACREU RA Questionnaire)</td>
<td>19.0</td>
<td>19.0</td>
<td>0.997</td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSION

• Improvements in arthritis self-efficacy and other secondary outcomes were similarly effective in local (in-person) and remote participant groups.
• Access to inflammatory arthritis education in rural and remote communities is importantly increased with using Telemedicine.