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

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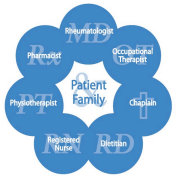
BACKGROUND

- 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)
  - Arthritis self-efficacy.
  - Arthritis knowledge.
  - Coping efficacy.
  - Illness intrusiveness (daily impact).

Telemedicine delivery
- Program extended to six rural/remote sites in Ontario, Canada.
- Program adapted to be delivered via interactive videoconferencing through two workshops:
  - Telemedicine Best Practices and Adult Education Principles.
  - Improved Public Speaking.

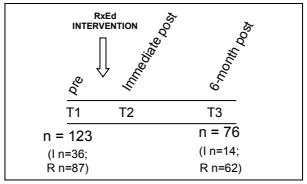
OBJECTIVES

- 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 ID(group) time group*time
    - Statistical model for repeated measures.
    - Estimated differences between pre and post intervention.
    - Checked whether similar for both groups (I vs R).

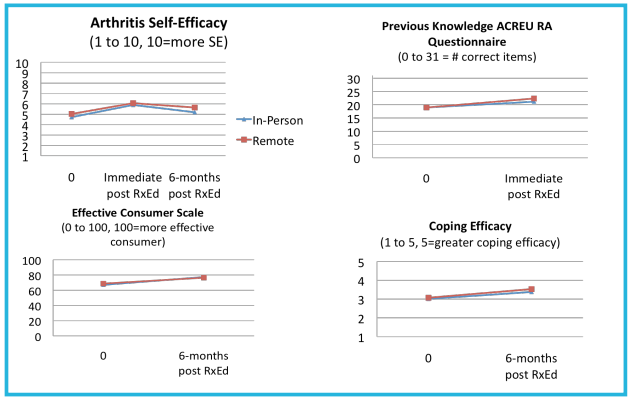


Study design and participation

RESULTS

- Charateristics of participants by group (I vs R).
  - No significant baseline differences.

	In-person (I) (n=36)	Remote (R) (n=87)	p-value
Age (years)	56.8	58.6	0.56
Gender (female)	91.7%	87.4%	0.56
RADAI (0 to 10=greater disease activity)	4.4	4.7	0.46
Duration diagnosed with arthritis (years)	11.6	7.9	0.18
Arthritis self-efficacy (1 to 10=greater SE)	4.7	5.0	0.48
Previous knowledge (ACREU RA # correct items/31)	19.0	19.0	0.997



Main effect of RxEd intervention on primary and secondary outcomes

Outcome	GEE: Main effect of intervention (RxEd) at T2		GEE: Main effect of intervention (RxEd) at T3	
	p-value	Units improved	p-value	Units improved
Primary: Arthritis self-efficacy	0.0002	0.7567	0.9514	-0.0155
Secondary: Previous knowledge (ACREU RA Questionnaire)	<0.001	1.4130	N/A	N/A
Coping efficacy	N/A	N/A	0.0876	0.1429
Illness intrusiveness	N/A	N/A	0.1771	2.3716
Effective consumer scale (ECS)	N/A	N/A	0.006	4.3069

RxEd: Prescription for Education; GEE: Generalized Estimating Equations; ACREU RA: The Arthritis Community Research and Evaluation Unit Rheumatoid Arthritis.

In all models, interaction between "group" and "time" not significant.

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.

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