

# Factors influencing attendance at a new multidisciplinary inflammatory arthritis education program – Perspective from a community-based program.

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## Abstract

The aim of this study was to identify factors which may influence patient referral and attendance at an Inflammatory Arthritis education program. Data were retrospectively collected on patients who attended a new inflammatory arthritis education program, those who did not attend and reasons for non-attendance. Data were also collected on patients who were referred to the program, patients who were not referred, and reasons for non-referral. Patients who attended the full education program were significantly more likely to speak English as their first language, live closer to the clinic and have shorter disease duration. Although patients with a formal education level of secondary school or less were less likely to be referred for the inflammatory arthritis education program there was no significant difference in the program completion based on formal education level. Non-attendance at the inflammatory arthritis education program is common and relates to a number of factors such as language issues, work commitments, weather and transportation issues.

## Background

Inflammatory arthritis education programs for patients with rheumatoid arthritis have been found to be beneficial in terms of disability, physician and patient desired outcomes, psychological status and self-efficacy. However, data on why patients with inflammatory arthritis do not attend such programs is limited, with studies showing low participation rates, but little insight into reasons why patients do not attend the programs [1, 2].

A multidisciplinary inflammatory arthritis program was established at the Headwaters Health Care Centre in Orangeville, Ontario (approximately 80 km northwest of Toronto, Canada) in October 2006. A three day inflammatory arthritis education program was started in January 2007. It was noted that many patients agreed to be referred for this education program but did not attend, and that many patients declined referral altogether. This study was designed to look at factors that may determine attendance and referral to the program.



## Methods

Patients with inflammatory arthritis were referred to the education program by one of the three rheumatologists treating the patient. The three rheumatologists were located in Brampton, Ontario, approximately 40km from the education program site. All patients with inflammatory arthritides other than gout, were eligible for the program. The program was started in January 2007 and data were collected from January 2007 – October 2008.

The education program was a three-day program given on 3 separate days over the course of two weeks. The first education session was approximately one hour about inflammatory arthritides and delivered by one of the three rheumatologists. A pharmacist gave education sessions about medications used for treatment of inflammatory arthritis lasting 1.5 hours the first day and 2 hours the second day. A physiotherapist gave sessions about exercises and daily management over approximately 8 hours spread over the three days.

Patients who were not referred to the education program were retrospectively identified when they were seen on routine follow up by their rheumatologists, who would note the reason for non-referral. Patients who only attended part of the education program were not counted in the analysis as it was thought it would complicate analysis of the groups. The criterion of active inflammatory arthritis was determined by the treating rheumatologist, and only patients with active inflammatory arthritis at the time of referral were counted in the analysis. During the study period there were no patients with inflammatory arthritis who were self-referred to the program. When it was determined that a patient did not attend the education session, the attending rheumatologist would ask the patient about the reasons for non-attendance, and it would be noted.

Data on patient age, gender, distance from education program site (km) [3], season, first language, highest formal education level, disease duration from diagnosis and swollen joint count were

## Conclusions

Education programs for patients with inflammatory arthritis have been found to be beneficial in terms of disability, joint counts, patient global assessment, psychological status [1], and function [4]. Attendance of such educational programs may be a function of program schedule, patient convenience or costs to patient; however there is little formal study of the topic. This study is a first attempt to systematically look at reasons for inflammatory arthritis patient non-attendance for a new patient education program in a community setting.

Although the proportion of patients attending our education program was low (21% of all patients in this study), Giraudet-Le Quintree et al [5] also noted an attendance rate under 20% in Rheumatoid arthritis patients referred to an 8 week education program, with many patients noting distance, work, and family reasons for not attending.

Other studies have noted, similar to our study, that many patients do not attend education programs because of distance, work, family issues, and concurrent illness [5, 6]. Similar factors have been noted in a recent randomized controlled trial in osteoarthritis education [7]. Bruce et al. [8] noted that participants in patient self-management programs had a higher education level compared with the general population, a finding we noted amongst patients who were referred to our program, however with our program formal education level was not associated with actual completion of the program. Manning et al. [9] noted “language difficulties” as a significant factor limiting participation in an education program for Rheumatoid arthritis, but did not specify further. In our study we noted that patients were more likely to attend the program if their first language was English.

Although this study is a retrospective single-centre analysis, and data on reasons for non-attendance were retrospectively obtained (so some data may be missing), it has an advantage of being a community “real life” experience of all patients who are referred to a newly established education

## Results

Table 1. Patients who attended the Inflammatory arthritis education program

	Attended program (n= 269)	Did not attend program (n= 375)	Odds ratio	p-value
Age (years)	61.59 (13.70)	67.44 (13.17)	0.93 (0.97, 0.91)	0.1138
Distance from clinic (km)	10.61 (4.16)	10.64 (4.12)	1.00 (0.99, 1.01)	0.7164
Number of Swollen Joints	10.17 (3.37)	9.57 (3.20)	1.07 (0.97, 1.08)	0.0048
Season (Spring)	4 (1.21)	5 (1.31)	0.90 (0.16, 5.24)	0.9164
Sex				
Male	1 (0.47%)	41 (23.4%)	0.72 (0.206, 1.76)	0.472
Female	3 (1.01%)	41 (23.4%)		
Season				
Spring	10 (28.1%)	11 (28.1%)	1.00 (0.306, 3.04)	0.983
Summer	10 (28.1%)	11 (28.1%)	1.00 (0.306, 3.04)	0.983
Fall	9 (23.8%)	10 (26.1%)	1.07 (0.441, 2.62)	0.862
Winter	9 (23.8%)	10 (26.1%)	1.07 (0.441, 2.62)	0.862
Language				
English	27 (77.6%)	87 (88.9%)	2.09 (1.126, 3.59)	0.022
Other	8 (22.4%)	10 (10.1%)		
Diagnosis				
RA	23 (66.5%)	107 (62.2%)	1.07 (0.402, 2.87)	0.882
Other	5 (13.5%)	10 (17.8%)	1.39 (0.441, 4.42)	0.622
Education				
Elementary	2 (5.2%)	17 (38.9%)	0.88 (0.138, 5.38)	0.936
High school	11 (28.4%)	41 (72.7%)	1.27 (0.512, 3.19)	0.622
College	11 (28.4%)	27 (75.7%)	1.37 (0.519, 3.72)	0.572
Other	10 (26.0%)	10 (17.8%)		

Note: Values in the first two value columns are either mean (std) or count (percentage). Values in the odds ratio column are OR (95% CI), 85% UCL).

Table 2. Patients who were referred to the inflammatory arthritis education program

	Referred (n= 128)	Not Referred (n= 81)	Odds ratio	p-value
Age (years)	59.2 (13.1)	61.7 (13.5)	0.98 (0.96, 0.99)	0.0002
Distance from clinic (km)	14.2 (4.72)	12.1 (4.02)	1.06 (1.04, 1.07)	0.002
Number of Swollen Joints	10.5 (3.4)	9.9 (3.4)	1.01 (0.97, 1.06)	0.722
Season (Spring)	4 (3.1%)	5 (6.1%)	0.67 (0.158, 2.81)	0.621
Sex				
Male	11 (21.9%)	11 (13.7%)	1.52 (0.702, 3.08)	0.207
Female	10 (20.3%)	10 (12.4%)		
Season				
Spring	14 (28.3%)	21 (25.6%)	1.24 (0.682, 2.26)	0.472
Summer	14 (28.3%)	21 (25.6%)	1.38 (0.682, 2.79)	0.472
Fall	11 (22.9%)	21 (25.6%)	1.33 (0.642, 2.79)	0.472
Winter	10 (20.3%)	10 (12.4%)		
Language				
English	72 (56.2%)	82 (101.2%)	1.22 (0.702, 2.18)	0.472
Other	56 (43.7%)	0 (0.0%)		
Diagnosis				
RA	79 (61.7%)	97 (100.0%)	0.62 (0.306, 0.97)	0.012
Other	20 (15.6%)	0 (0.0%)	0.90 (0.21, 3.61)	0.882
Education				
Elementary	4 (3.1%)	10 (12.4%)	0.22 (0.01, 5.38)	0.001
High school	19 (24.7%)	39 (48.1%)	0.88 (0.402, 1.91)	0.001
College	17 (22.9%)	11 (13.7%)	0.95 (0.441, 2.06)	0.936
Other	18 (23.3%)	10 (12.4%)		

Note: Values in the first two value columns are either mean (std) or count (percentage). Values in the odds ratio column are OR (95% CI), 85% UCL).

Out of 269 patients with inflammatory arthritis, a total of 210 patients with inflammatory arthritis were evaluated during the study period, the rest were excluded because of incomplete data, most frequently formal education level. From the 210 patients included in the study 130 were diagnosed as Rheumatoid arthritis, 44 were diagnosed as undifferentiated inflammatory arthritis and 36 as other inflammatory arthritides (eg. psoriatic arthritis, SLE, spondylitis, Wegener’s granulomatosis). Characteristics of patients who attended or did not attend the education program are shown in Table 1. Non-attendance at the clinic was most often related to transportation issues (22 patients), work issues (17 patients), miscommunication (wrong phone number, patient confusion about timings etc.) 11 patient, family issues and concurrent illness (5 each).

Characteristics of patients who were referred or not are shown in Table 2. There was no relation between diagnosis and referral or attendance. The most common reasons for non-referral include lack of transport (35 patients), language issues (11 patients), work commitments (10 patients) and lack of interest (7 patients).

There was not enough evidence to conclude that any other known patient characteristics were related to attendance or referral to the education program.

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