Inflammatory Arthritis Treatment Outcomes at a First Nations Reserve Rheumatology Specialty Clinic

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BACKGROUND AND OBJECTIVE

- Inflammatory arthritis disproportionately affects Canada's First Nations population.
- Treatment outcomes may be ameliorated by health service models that mitigate logistical barriers to care and provide specialty services embedded in the primary care context.
- This study assessed the effectiveness of a specialized care model, delivered in a First Nations primary care setting, in achieving inflammatory arthritis targets.

METHODS

Participants:

- Consenting adults from Siksika, Alberta were recruited to an arthritis screening program between June 2011 and August 2012.
- Those found to have inflammatory arthritis received ongoing follow-up with collection of disease activity measures and patient-reported outcomes, and treatment recommendations, at each visit. These visits occurred at the local health and wellness centre, supported by a community nurse.

Statistical Analysis:

- Repeated measures ANOVA was used to describe changes in disease activity measures over a 24 month period.
- Treatment recommendations were compared to the disease activity state as measured by the DAS28.

RESULTS

Table 1. Cohort Inception Characteristics (n=47)

Type of Inflammatory Arthritis	Rheumatoid Arthritis: 25 (53.2%) Other Inflammatory Arthritis: 16 (34.0%) Systemic Lupus Erythematosus and Connective Tissue Diseases: 6 (12.7%)
Age, years (mean)	47
Females	79%
Smoking	74%
Family History of Rheumatoid Arthritis	74%
Autoantibody profiles	Whole Cohort: 37.8% RF or anti-CCP + Whole Cohort: 46.3% ANA + Rheumatoid Arthritis: 14 (56.0%) RF or anti-CCP +

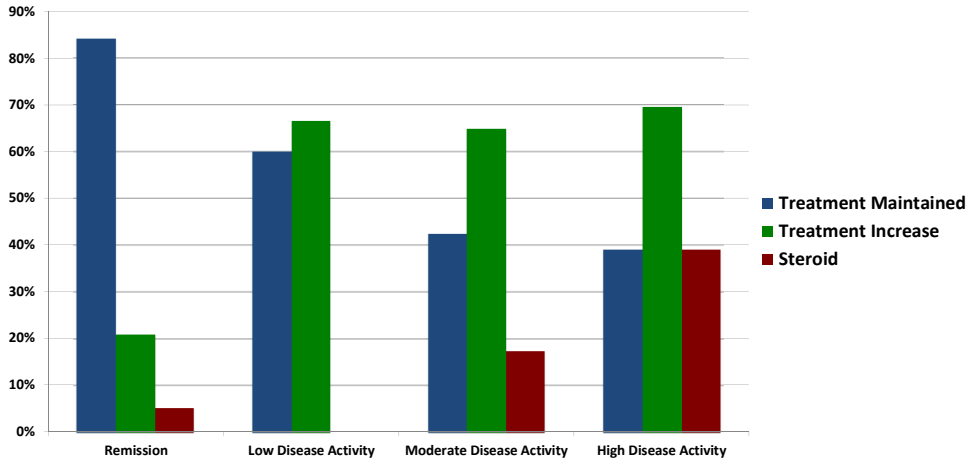
RESULTS

Table 2. Mean Values for Disease Activity Measures at Baseline, and Mean Improvement Over 24 Months

	Baseline	Mean Decrease Over 24 Months*
DISEASE ACTIVITY MEASURES		
TJC (/28)	8.2 (6.8)	3.3 (95%CI 1.0 to 5.6), p=0.03
TJC (/68)	15.2 (10.3)	7.2 (95%CI 4.1 to 10.3), p=0.01
SJC (/28)	5.4 (5.8)	3.3 (95%CI 1.1 to 5.5), p=0.02
SJC (/66)	9.7 (8.4)	7.0 (95%CI 3.5 to 10.4), p=0.006
DAS28	4.29 (1.33)	0.37 (95%CI -0.51 to 1.25), p=0.16
PATIENT REPORTED OUTCOMES		
Pain (0-100)	62.6 (25.3)	9.2 (95%CI -2.1 to 20.5), p=0.15
Patient Global (0-100)	47.8 (23.8)	-3.1 (95%CI -14.6 to 8.3), p=0.23
HAQ Score (0-3)	1.32 (0.72)	0.25 (95%CI 0.04-0.46), p=0.12
Morning Stiffness (minutes)	214 (414)	-13.5 (95%CI -116.1 to 89.1), p=0.33

* Negative value indicates worsening of score

Figure 1. Treatment Recommendations Made, by Disease Activity State (can exceed 100%)



CONCLUSIONS

Although the program adequately addressed physician-derived disease activity targets, patient-reported outcomes were not significantly improved during follow-up.
A modification of the program should include a multi-disciplinary team that can address holistic aspects of First Nations health and reduce loss to follow-up from specialty care.
A quality improvement initiative will be introduced to document reasons for deviation from the treat-to-target protocol.