Conclusion: PsA and Ps have proved to be diseases with a high economic burden, and the total costs were mainly driven by direct non-healthcare costs. Moreover, although annual total costs in patients with PsA were similar to those of Ps patients, the combination of both manifestations yielded the highest costs suggesting the importance of the increased disease load.

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OP0263-HPR MAJOR STRESSORS IN THE YEAR PRIOR TO RA DIAGNOSIS: IMPACT ON PATIENT-REPORTED OUTCOMES ONE YEAR LATER

N. Andersen¹, O. Schieir², M. F. Valois³, G. Boire³, J. Pope⁴, G. Hazlewood⁵, L. Bessette⁶, C. Hitchon⁷, D. Tin⁸, C. Thorne⁹, E. Keystone², V. Bykerk⁹, S. J. Bartlett¹ on behalf of CATCH Investigators. ¹McGill University, Montreal, Canada; ²University of Toronto, Toronto, Canada; ³University of Sherbrooke, Sherbrooke, Canada; ⁴Western University, London, Canada; ⁵University of Calgary, Calgary, Canada; ⁶University of Laval, Quebec City, Canada; ⁷University of Manitoba, Winnipeg, Canada; ⁸Southlake Regional Health Centre, Newmarket, Canada; ⁹Hospital for Special Surgery, New York, United States of America

Background: Stress is implicated in RA onset and poorer prognoses through changes in neuro-endocrine and autoimmune function. Although many people with RA link disease onset to recent stressful life events, results from retrospective studies are unclear.

Objectives: To describe the incidence of major stressors (+STRESS) in year prior to diagnosis and compare characteristics and patient-reported outcomes (PROs) of newly diagnosed RA patients with and without +STRESS at 0 and 12 months.

Methods: Data were from early RA patients (symptoms <1 yr) enrolled in the Canadian Early Arthritis Cohort (CATCH) from 2007-17 who met 1987/2010 ACR/EULAR criteria and had ≥12 months of follow-up. Patients reported major psychological (death, divorce/separation, family, financial, other) and physical (motor vehicle accident, surgery, major illness/infection, other) stressors in previous year. We used independent t-tests and chi square to compare characteristics by stressors at baseline, and multivariable regression to examine the impact of +STRESS on disease activity and PROs at 1 year, adjusting for age, sex, education, fibromyalgia, and SJC.

Results: The 1933 adults were mostly female (72%), with a mean (SD) age of 55 (15) years. 52% reported 1+ stressors in previous year; family (48%), financial stress (36%), death (35%), surgery (28%), and major illness (26%) were the most common stressors. Patients with +STRESS were more likely to be women, younger, have more comorbidities including fibromyalgia, and higher mean DAS28. Patients with +STRESS also had significantly higher mean pain, fatigue, depression, sleep disturbance, patient global, and HAQ scores at baseline. At 1 year, SJC and the proportion in DAS28 REM was similar between groups. However, PROs (pain, HAQ, Fatigue, Pt Global, Depression, Poor Sleep) remained higher in +STRESS, with evidence of an additive effect for number of stressors and having both physical and psychological stressors (Table). The greatest impacts were on mood, sleep disturbance, and fatigue.

Conclusion: In this pan-Canadian early RA cohort, more than half reported 1+ stressful life events in the year prior to diagnosis. Individuals reporting major stressors had significantly worse pain, patient global, disability, depression, fatigue, and sleep disturbance at diagnosis; 1 year later, though disease activity was similar between groups, the effects of +STRESS on PROs persisted. Early RA patients with recent major stressors may benefit from emotional support and stress reduction to optimize how they feel and function.

Mean (SD) or N (%)	No Stress (N=928; 48%)	Physical (N=131; 7%)	Psychological (N=658; 34%)	Both (N=216; 11%)
Age	56 (15)	56 (15)	53 (14)	52 (15)
Women	622 (67%)	82 (63%)	512 (78%)	174 (81%)
College Education	464 (50%)	76 (58%)	345 (52%)	126 (58%)
Rheum Dis Comorbid Index	1.1 (1.2)	1.4 (1.4)	1.1 (1.3)	1.4 (1.3)
OA or Spinal pain	168 (18%)	35 (27%)	117 (18%)	55 (25%)
Fibromyalgia diagnosis	15 (2%)	2 (2%)	13 (2%)	11 (5%)
Symptom duration (months)	5.6 (3.0)	5.7 (3.0)	5.9 (3.0)	5.9 (3.0)

Mean (SD) or N (%)	No Stress (N=928; 48%)	Physical (N=131; 7%)	Psychological (N=658; 34%)	Both (N=216; 11%)
DAS28 – mean	5.0 (1.4)	5.1 (1.5)	5.0 (1.5)	5.2 (1.4)
MTX ±csDMARDs	679 (73%)	100 (76%)	489 (74%)	166 (77%)
Oral Steroids	295 (32%)	40 (31%)	215 (33%)	55 (25%)
Pain (0-10)	5.3 (2.8)	5.5 (2.9)	5.7 (2.8)	6.2 (2.8)
HAQ-DI	1.0 (0.7)	1.2 (0.7)	1.1 (0.7)	1.3 (0.7)
Fatigue (0-10)	4.7 (3.1)	5.0 (3.0)	5.7 (2.9)	5.9 (2.9)
Patient Global (0-10)	5.6 (2.9)	6.0 (2.9)	6.0 (2.9)	6.4 (3.0)
Depression (SF12 MCS < 45.6)	329 (35%)	54 (41%)	356 (54%)	123 (57%)
Poor sleep (0-10)	4.5 (3.4)	4.8 (3.3)	5.3 (3.2)	6.0 (3.1)

Effect of stress in year prior to diagnosis on outcomes at 12 months (N=1933).*

	Pain	Fatigue	Patient Global	Depression	Poor Sleep	HAQ-DI	DAS28 REM	Swollen Joints
Any Stress	0.27 (0.02, 0.53)	0.39 (0.12, 0.66)	0.25 (-0.01, 0.51)	1.55 (1.24, 1.95)	0.49 (0.21, 0.76)	0.05 (-0.01, 0.11)	1.02 (0.82, 1.27)	0.12 (-0.19, 0.42)
Total stressors	0.24 (0.12, 0.37)	0.32 (0.18, 0.45)	0.24 (0.11, 0.37)	1.30 (1.17, 1.45)	0.37 (0.24, 0.51)	0.05 (0.02, 0.08)	1.00 (0.90, 1.12)	0.05 (-0.10, 0.20)
1 (n=928, 48%)	REF	REF	REF	REF	REF	REF	REF	REF
2 (n=575, 30%)	-0.02 (-0.31, 0.28)	0.14 (-0.17, 0.46)	-0.04 (-0.34, 0.26)	1.31 (1.00, 1.71)	0.18 (-0.14, 0.50)	0.00 (-0.07, 0.06)	1.12 (0.87, 1.43)	0.05 (-0.29, 0.42)
3 (n=295, 15%)	0.54 (0.17, 0.92)	0.59 (0.19, 0.99)	0.54 (0.16, 0.92)	1.79 (1.29, 2.48)	0.80 (0.40, 1.20)	0.10 (0.02, 0.18)	0.99 (0.72, 1.35)	0.20 (-0.25, 0.65)
4 (n=88, 5%)	1.06 (0.45, 1.66)	0.73 (0.08, 1.39)	0.81 (0.19, 1.44)	3.10 (1.15, 3.16)	0.72 (0.06, 1.38)	0.18 (0.04, 0.32)	0.90 (0.53, 1.52)	0.23 (-0.50, 0.96)
4+ (n=47, 2%)	0.75 (-0.11, 1.61)	1.78 (0.84, 2.72)	1.02 (0.12, 1.91)	3.45 (1.70, 6.99)	2.10 (1.16, 3.04)	0.19 (0.00, 0.38)	0.46 (0.21, 1.03)	0.03 (-0.99, 1.05)

*Multivariable linear regression coefficient adjusted for age, sex, education, baseline fibromyalgia diagnosis and swollen joints.

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OP0264-HPR PERSPECTIVES ON APPROACHES TO PREDICT THE DEVELOPMENT OF RHEUMATOID ARTHRITIS: A QUANTITATIVE ASSESSMENT OF PATIENTS AND THEIR FIRST DEGREE RELATIVES

L. Wells¹, G. Simons², R. Stack², C. Mallen³, P. Nightingale², K. Raza², M. Falahee². ¹University of Birmingham, Birmingham, United Kingdom; ²University of Birmingham, Birmingham, United Kingdom; ³Keele University, Keele, United Kingdom

Background: There is considerable interest within the medical research community in the identification of individuals at risk of developing rheumatoid arthritis

(RA), to identify those who may benefit from preventive interventions. However, it is important to understand the views of those who may be candidates for such predictive tests, to inform the development of effective approaches. First degree relatives (FDRs) of patients with RA are at an increased risk of developing RA. RA patients can provide access to FDRs. Qualitative investigations have explored the views of these groups about predictive testing for RA^{1,2}, but quantitative approaches are needed to develop a robust understanding.

Objectives: To identify predictors of interest in predictive testing for FDRs and patients, and to assess the likelihood of patients communicating information about RA risk to their FDRs.

Methods: Surveys were completed by 482 RA patients and 397 of their FDRs. Patients were invited to complete the survey and to provide another to their relatives. Spearman's Rank Correlations were used to assess relationships between interest in predictive testing/ likelihood of risk communication and potential predictor variables.

Results: FDRs had a median age of 41 years, 64% were female. 57% were definitely interested and 36% were probably interested in taking a predictive test for RA. Several predictors were found to be associated with interest (table 1).

Table 1. Spearman's correlations for relatives' and patients' interest in predictive testing. After applying a Bonferroni adjustment, p values were taken as statistically significant at $p \leq 0.003$.

Predictors of interest in predictive testing	FDRs		Patients	
	rs	P	rs	P
Brief Illness Perception Questionnaire	0.11	0.03	0.09	0.05
Consequences	0.16*	0.002*	0.10	0.03
Timeline	0.09	0.07	-0.05	0.28
Personal control	-0.03	0.59	-0.02	0.68
Treatment control	-0.02	0.76	0.02	0.74
Identity	0.09	0.09	0.12	0.01
Concern	0.21*	<0.001*	0.16*	<0.001*
Coherence	0.11	0.03	0.007	0.88
Emotional	0.12	0.02	0.11	0.02
Information Seeking	0.35*	<0.001*	0.22*	<0.001*
Decision making	-0.05	0.33	0.07	0.13
Health literacy	0.03	0.52	0.02	0.62
Health numeracy	-0.06	0.23	-0.02	0.72
Brief Avoidance Coping Questionnaire	0.12	0.02	-0.01	0.76
Optimism	0.06	0.26	-0.07	0.12
Health anxiety	0.16*	0.001*	-	-
Perceived risk	0.37*	<0.001*	-	-
Rheumatoid Arthritis Impact of Disease	-	-	0.05	0.31

- not applicable

Patients had a median age of 65 years, 71% were female. 47% were definitely interested and 30% were probably interested in their children taking a predictive test. Several predictors were found to be associated with interest (table 1). On a Likert scale from extremely unlikely (0) to extremely likely (4), most patients indicated that they were likely to communicate RA risk information to their children (median score=3).

Conclusion: Interest in predictive testing for RA was high amongst FDRs, and factors including information seeking preference, RA risk perception, concern about RA, perceived consequences of RA and health anxiety were significantly associated with interest. Patients were also willing to communicate information about RA risk to their children. These findings increase understanding of perceptual variation in those at risk of RA, and will inform the development of information to support decision making in individuals considering predictive tests and preventive interventions. We are currently extending this preliminary analysis by building multivariate models incorporating a range of attitudes about predictive testing, assessing predictors of patients' likelihood of communicating to their FDRs about risk, and the relationship between patients' and FDRs' responses.

References:

[1] Stack RJ et al. *BMJ open*. 2016; 6(6):e010555.

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OP0265-HPR FACTORS ASSOCIATED WITH MEETING WORK DEMANDS FOR INDIVIDUALS WITH RHEUMATIC DISEASES

D. Connolly¹, C. Fitzpatrick¹, L. O'toole¹, F. O'shea², M. Doran². ¹Trinity College Dublin, Occupational Therapy, Dublin, Ireland; ²St. James' Hospital, Rheumatology, Dublin, Ireland

Background: Almost 65% of individuals with rheumatic diseases have severe fatigue with the majority of these reporting difficulties in work leading to absenteeism and early retirement. However, there is a lack of research investigating how different types of fatigue impact on work ability.

Objectives: To identify the prevalence of different types of fatigue and explore the association between different types of fatigue and various demands involved in work

Methods: A cross-sectional study was carried out with 234 individuals with rheumatic diseases currently in employment. Study measures examined demographics, different types of fatigue (general, physical reduced activity, reduced motivation and mental), ability to meet work demands, disease activity and quality of life.

Results: The majority of participants were female (70%), had rheumatoid arthritis (42.7%), were between 41-50 years (30.3%) and worked full-time (70%). One hundred and twenty-eight participants (55%) had severe fatigue. Physical fatigue was the most prevalent category of fatigue (Table 1). Participants reported managing 50% of their work demands with physical demands being the most challenging (Table 1). All types of fatigue were significantly associated with the total WRF score (Table 2). Mental fatigue had the strongest association with the total WRF score ($r=0.53$, $p<0.001$). On examining the impact of different types of fatigue on meeting work demands, mental fatigue was the most significant predictor of difficulty meeting work demands ($\beta=1.6$, $SE=0.37$, $p<0.001$)

Table 1. MFI and WRF total and category scores

WRF n=212	Total mean (SD)	Work Scheduling Demands mean (SD)	Output demands mean (SD)	Physical Demands mean (SD)	Mental Demands mean (SD)	Social Demands mean (SD)
	50.3% (19.0)	44.6% (25.8)	52.9% (22.1)	43.3% (27.9)	53.4% (22.5)	62.4% (17.7)
MFI n=220	Total mean (SD)	Physical fatigue mean (SD)	Reduced activity mean (SD)	Reduced motivation mean (SD)	Mental fatigue mean (SD)	
	13.4 (2.8)	12.5 (4.3)	10.1 (4.2)	10.2 (3.5)	10.3 (4.2)	

Table 2. Correlations for WRF and MFI fatigue categories

MFI Category	Correlations with total WRF	p-values
General fatigue	.53	<0.001
Mental fatigue	.57	<0.001
Physical fatigue	.48	<0.001
Reduced motivation	.48	<0.001
Reduced activity levels	.41	<0.001

Conclusion: Fatigue interferes with many aspects of work performance. However, this study identifies that mental fatigue is the greatest predictor of difficulty in managing work. Self-management interventions focusing on mental fatigue and work ability are required for individuals with rheumatic diseases to manage the demands of their work.

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OP0266-HPR WORK PRODUCTIVITY IN PATIENTS WITH AXIAL AND PERIPHERAL SPONDYLOARTHRITIS

C. Airolidi¹, P. Girard Bosch², M. Benegas³, V. Duarte⁴, V. Cosentino⁵, F. Sommerlecker⁶, J. Marin⁷, J. M. Bande⁸, J. Gamba⁹, R. Águila Maldonado⁹, E. Velozo¹⁰, M. Oliver¹¹, R. Nieto¹, P. Gonzalez¹², D. Vila¹³, E. Kerzberg⁵, M. Cosatti¹⁴, J. Tapia⁵, P. Giorgis¹⁵, L. L. Macias Oviedo¹⁵, E. Schneeberger¹⁵, S. Scarafía¹⁶, V. Martire². ¹Hospital Provincial de Rosario, Rosario, Argentina; ²Instituto Médico Platense, La Plata, Argentina; ³Mendoza, CABA, Argentina; ⁴Clínica Monte Grande, Buenos Aires, Argentina; ⁵Hospital Ramos Mejía, CABA, Argentina; ⁶Hospital Italiano de Buenos Aires, CABA, Argentina; ⁷Hospital Tornú, CABA, Argentina; ⁸Hospital Posadas, Buenos Aires, Argentina; ⁹Hospital San Martín de La Plata, La Plata, Argentina; ¹⁰Sanatorio Adventista del Plata, Entre Ríos, Argentina; ¹¹Hospital Privado de Comunidad de Mar del Plata, Mar del Plata, Argentina; ¹²Clinica DIM, Buenos Aires, Argentina; ¹³Centro Médico Ginecológico de Zárate, Buenos